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Addresses.

NEUROLOGIC PROGRESS AND PROSPECTS.

CHAIRMAN'S ADDRESS, DELIVERED BEFORE THE SECTION ON NERVOUS AND MENTAL DISEASES OF THE AMERICAN MEDICAL ASSOCIATION, AT THE FIFTY-FOURTH ANNUAL SESSION, HELD AT NEW ORLEANS, MAY 5-8, 1903.

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INTRODUCTORY.

Mankind in general and practitioners of the healing art in particular may be likened to the different groups of dwellers in a series of narrow and deep valleys surrounded by lofty mountains. Each ordinarily obtains a restricted view of his own valley and sees little or nothing of the others. When by chance or intent they meet on an eminence, which is far above all their natural habitats, their view is not only broader and more accurate as concerns their own individual valleys, but extends in varying degrees over the domains of others.

So it is with the members of our guild, when they rise to a higher intellectual plane at meetings such as this; their respective views broaden and tend to harmonize with those of their fellows, while at the same time the aggregate of their fields of mental vision is vastly augmented.

The general practitioner surveys the domain of the specialist, getting here and there an idea, while the specialist broadens his horizon by contact with the generalist and by a more comprehensive view of the work of his confrères.

GENERAL CONSIDERATIONS.

The classic observations of Broca[1] (1861), establishing a definite cerebral location for the function of articulate speech, were followed up so assiduously, during the next three decades, by numerous investigators, that the period named may be termed the era of gross localization of nervous functions. In marked contrast with that period the past decade may be fitly characterized as an era of progress in knowledge of structural organization of the nervous system.

The biologic law that function precedes and determines structure is here paralleled in the sense that knowledge of function has preceded and led up to knowledge of intimate structure.

Beginning with the demonstration by Cajal[2] (1893-94) of the anatomic individuality of the neuron, the labors of a host of enthusiastic investigators throughout the civilized world have rendered the decade now closing a most memorable one in neurologic progress.

The histologic, physiologic and pathologic fields have been lighted up as never before. A new terminology has been necessitated by the newer knowledge of neuronic architecture of the nervous system; and we find, in consequence, the older terms: areas, masses, nuclei, fiber tracts and reticulum, replaced largely, or at least added to and elucidated, by "neuron," axon, dendrite, collateral process, gemmule, etc.

As one result of all this labor and progress our present-day conceptions of the real nature of many diseases of the nervous system are in marked contrast with those of a former era. To none is this more apparent than to the practitioner, who compares his modern text-books and the literature produced at such gatherings as this with the same sources of information of a decade or more ago.

That this knowledge of intimate structure as related to function, both physiologic and pathologic, is still progressing at a rapid rate is a matter for profound congratulation, since its obvious tendency is to furnish an increasingly definite foundation for the more successful application of therapeutic measures. A second result may be observed in the rather more optimistic views as to the possibilities of prophylaxis and therapy in diseases of the nervous system which pervade the modern neurologic mind.

NEUROLOGIC PROGRESS.

During the past year the progress of neurologic medicine has been satisfactory, though not marked by brilliancy of achievement.

No supreme discovery or demonstration approaching in importance that of "the neuron" has been announced. Yet a steady advance has been kept up along the "firing line," and the skirmishers, represented by the workers in research laboratories, have penetrated farther than ever into the territory of the heretofore unknown with noticeable advantage to the position and strength of the "main army."

While "the neuron" maintains its position as a "star of the first magnitude" in the neurologic firmament, its lustre has been perhaps a trifle dimmed by the observations of Bethe and of Ballance and Stewart on "The Healing of Nerves."[3] Briefly, these appear to affect the neuron doctrine as follows:

1. They indicate that destroyed axis cylinders of peripheral nerves are reproduced, not by down growths from the proximal ends of the cut or degenerated axons, but by proliferation of neurilemma cells of the separated portions of the axis cylinder.

2. These observations also indicate that a peripheral axon (axis cylinder) is not originally a mere outgrowth from a single spinal neuron body (nerve cell), but is a result of the fusion of a chain of cells, the prototypes or

equivalents of other chains represented in the neurilemma.

3. When the axon is destroyed the remaining neurilemma cells take up the task of producing a new one by proliferation and end-to-end fusion of new cells.

Two facts stand out prominently in this connection. First, that these observers admit that development is more or less incomplete unless the newly reproduced distal segment is eventually joined to the proximal end; another illustration of the law that structure is dependent on function.

It will also be noted that these observations apply to peripheral neurons only, and do not in any way affect the status of the central neurons, since their axis cylinders are devoid of neurilemma, and hence must apparently depend on their neuron bodies for trophic influence. Moreover, reproduction of these central axons when once destroyed is almost unknown, only a few observations on the subject existing in the literature (Worcester).[4]

The painstaking and admirable observations of Apáthy,[5] extending over a period of fourteen years and published some six years ago, were claimed by him to show that the entire nervous system is permeated by a network of ultimate fibrillæ passing unbroken through the neurons. They have been in part accepted by Bethe and Nissl, who also consider that the resulting "fibrillary hypothesis" invalidates the neuron doctrine. As these fibrillæ themselves, according to Apáthy's showing, are a product of certain neuron bodies (cells), the conclusion that they are of secondary importance only seems justified at present.

Far from disproving or supplanting the neuron doctrine the "fibrillary hypothesis" of Apáthy seems to the writer to have merely attained the dignity of an appendage to it; an appendage, doubtless of considerable import, it is true, but just how important remains to be determined by its verification in a larger series of organisms than earthworms and leeches.

NEURODYNAMICS.

The nature of nerve force and the conditions of its transmission yet remain an unopened book, of which Professor Loeb[6] has essayed to exhibit to us the title page in his ingenious application of the electro-chemical theory of ions to the dynamic processes of the neuron and muscle cell.

The main landmarks of his hypothesis may be briefly stated as follows:

1. An ion is the electrolytic representative of an atom, but is, theoretically, much smaller in size.

2. Ions, like the electrolytes of which they are the ultimate electrical units, are positive or negative, hence anions and kations.

3. Their function, by their presence in definite proportion in each tissue, is to preserve the "labile equilibrium" of the colloid materials of protoplasm on which its activities depend.

4. Variations in these proportions or attempts to restore the same to normal (through electro-chemical action) give rise to function in the particular tissue that is the seat of such variation at any given time.

5. Hence, the dynamic process of neurons, as of muscle cells, may depend on the proportions of ions of, say calcium, sodium, potassium, etc., that are present at any particular instant.

6. This, if verified, would apparently indicate that the dynamics of function reside in the ions, while the quality and direction of function only are conditioned by the histologic structure and connections of the neuron.

Dercum[7] and others have proposed, some years ago, a theory of "amœboid protrusion and retraction" of neuron processes (gemmules) in order to account for the "make" and "break" of function in physiologic as well as pathologic (functional) states; accounting in this way for sleep and other suspensions of consciousness, as well as for various paralyses of functional character.

While this idea has probably served a good purpose in directing attention to changes in the neuron, as the basis of function, yet the type and nature of the movement referred to is obviously too gross in character to satisfy the demands of the problem.

The bearing of the theory of ions, however, is quite another matter. It is much easier to conceive of an alteration in electro-chemic status as the basis of changes in nervous function than to attribute them to so coarse a process as physical retraction and elongation.

In fact, in commenting on this topic it has been the custom of the writer to say to his classes that, while the theory of physical retraction and expansion is not tenable in this connection, yet it is quite conceivable that a break in chemical relations, a chemical retraction and reapproachment, so to speak, might account more satisfactorily for the facts. The same may be said of an alteration in electro-chemical status, due to variations in ions.

PSYCHODYNAMICS.

The impression that "psychic" activity may exist independently of physical agents still appears to obtain a hold even on some medical minds, and is not confined to the devotees of the various so-called "cults" patronized by the laity and exploited by charlatans.

It seems hardly necessary to say that such independent existence of "psychic" activity has not been demonstrated in fact, and in the nature of things is not likely to be.

CLINICOPATHOLOGIC.

Pellagra has been demonstrated by Ceni[8] in a remarkably complete series of experiments, to be due to infection by micro-organisms belonging to the mould fungi, namely, the *Aspergillus fumigatus* and the *Aspergillus flavescens*. Either species may act in any given case, but seldom both.

These organisms reach the human subject through the medium of infected maize, but are also observed in mouldy bread, etc.

The parasites pass from the intestine in the form of spores, become localized in various tissues and organs (lungs, pleura, pericardium and pia-mater), and there elaborate and emanate very virulent toxines, which give rise to phenomena of general poisoning, as well as to local inflammatory process of a diffuse character.

The nervous symptoms which have led to the classification of pellagra as a nervous disease consist of widespread alterations in sensation, motion and intellect.

Thermalgesia along the spine, numbness and formication of the legs.

Tremor, motor inco-ordination and paraplegic weakness are common.

Apathy, incoherence and melancholic symptoms are noted.

The mortality is high, but recoveries do occur. The importance of the discovery is evident when we realize that: 1. Sixty thousand persons suffer from the disease in Italy alone at the present time. 2. By reason

of the fact that the author has devised a plan for the successful treatment of the disease by the serum of immunized goats and horses.

Although limited, so far as known, to Italy and southern France, in which countries it is traceable to the use of unripe and badly kept maize as a food, the disease interests us for three reasons:

1. It affords an example of a distinct neuron degeneration due to a definite organism.

2. The symptoms, strongly suggestive in some cases of ataxic paraplegia (combined sclerosis), in others of paresis, and in others of ankylostomiasis (Harris[9]), may call for differentiation from those affections in this country.

3. Owing to the well-known occasional presence of the aspergillus in the auditory canal, where it has heretofore been considered an object of local rather than of general pathologic import.

MYELITIS.

Acute myelitis, so-called, is one of the diseases of which our knowledge of the pathologic nature is being gradually developed.

The older idea that the inflammation was the primary factor, the vascular disease and softening secondary, has been practically reversed in a large proportion of the cases, thus bringing the subject in line with similar processes in the brain, where the vascular disease (endarteritis and thrombosis) has long been recognized as the primary element in acute softening.

Singer,[10] in a valuable résumé of the subject, reports two autopsies, both showing obliterative arteritis of syphilitic origin, and refers to nineteen others, fifteen of which presented a syphilitic history. His conclusions are:

1. So-called acute myelitis is found on microscopic examination, in the majority of recorded cases, to be not inflammatory, but due to thrombosis of spinal vessels.

2. That by far the most common cause of this thrombosis is syphilitic arteritis, and that senile arterial degeneration forms a considerable proportion of the remaining cases.

3. This view as to the pathology is confirmed clinically by the analogy between this disease and cerebral thrombosis.

Williamson,[11] in 1894, advocated the same views, which are now accepted to a greater or less extent by Gowers, Oppenheim, Marie, Dana, Church and Peterson, though Singer, as above quoted, takes a rather more advanced stand as to the comparative frequency of thrombosis as a cause. A somewhat extensive clinical experience leads the writer to heartily indorse these views of Singer, the bearing of which on our therapy is obviously of great practical importance.

BRACHIAL NEURITIS.

Somewhat analogous to the problems presented by acute myelitis are those relating to the pathology of brachial neuritis, especially of those of uni-radicular type.

E. Farquhar Buzzard,[12] in an important article in *Brain*, reports six carefully worked-out cases, and suggests that vascular lesions, embolic or thrombotic, better explain these cases than the older idea of a neuritis of toxic or "exposure to cold" origin. His conclusions are as follows:

1. "There exists a clinical group of cases in which the symptoms (localized muscular atrophy in shoulder, arm or hand muscles, sensory dissociation and hypesthesia) strongly suggest a more or less complete destruction of functional continuity in one of the spinal nerves forming the brachial plexus.

2. "The objective disturbances of sensibility resulting from this lesion closely conform with those observed by Sherrington after cutting a posterior root in a monkey. They differ in some respects from the anesthesia produced by the division of a peripheral nerve. The objective hypesthesia is not associated with any subjective sensation of numbness, and is consequently overlooked by the patient.

5. "The atrophy of the affected muscles is in excess of what might be expected in view of the fact that many of the muscles receive fibers from two or more spinal nerves.

6. "The condition generally occurs in persons who have at some time been the subjects of a disease affecting the cardio-vascular system. The morbid process is probably vascular in character and may be sudden or gradual in its onset."

PACHYMENINGITIS HEMORRHAGICA INTERNA.

Barratt[13] records an exhaustive series of investigations on man and lower animals, the results of which indicate that intravascular thrombosis is the probable essential lesion leading to the formation of the so-called false membrane in this disease. He concludes: "Finally, the view may be advanced that pachymeningitis interna hemorrhagica is a morbid process in which the essential lesion is a separation of fibrin, usually within the blood vessels, on which the other changes in this condition are largely if not chiefly dependent." The article is well illustrated.

LOCAL PANATROPHY.

Sir William Gowers[14] contributes a brief but interesting article under this title.

"In certain areas of the trunk, limbs or face, which vary in diameter from that of a nut to that of an orange, or larger, there seems to be wasting of all the subcutaneous tissues down to the bones, with slight change in the skin, which is then distinctly thinner and slightly discolored. The aspect of the areas may be described as that of a subcutaneous excavation." Even the bones may be affected. The distribution is without definite relation to the muscles or nerve distribution. No hypothesis is advanced as to its cause.

BLOOD CHANGES IN EPILEPSY.

Pugh[15] contributes an important article "On Certain Blood Changes in Idiopathic Epilepsy," based on an investigation of forty cases. His conclusions are:

1. The alkalinity of the blood (in epileptics) in the interparoxysmal period is lower than the average of the control cases.

2. The diminution is gradual and progressive, and is more marked in those cases suffering from gastric catarrh and constipation.

3. There is a marked sudden and pronounced fall immediately prior to the onset of the fit.

4. There is a further fall in the alkalinity after the fit is over; this diminution is seen from three to ten minutes after the attack.

5. This after-diminution depends on the duration and severity of the muscular twitching and on the degree of the alkalinity in the inter-paroxysmal period.

6. There is a gradual return of the blood to its normal alkalinity, which takes place in five to six hours, the rise being more marked in the first hours.

7. If the alkalinity keeps at a low value it may determine the onset of another fit.

8. The diminution after the fit is due to the chemical end products of muscular metabolism, i. e., sarcolactic and carbonic acids and not to substances in direct relation to the epilepsy.

9. The diminution after a nocturnal fit takes a longer time to return to the normal than the diminution after a day fit.

10. It is impossible to elevate and maintain the alkalinity within physiological limits for any appreciable length of time by the administration of drugs.

11. There is a leucocytosis after a fit. The increase is due to the small hyaline cells, also to a less extent to the large hyaline cells. The polymorphonuclear cells are diminished. There is an increase in the eosinophile cells some hours after the attack.

12. The leucocytosis is not so pronounced in *status epilepticus;* it diminishes with each seizure.

Respecting treatment the author remarks: "The effect of drugs on the alkalinity is transient, and it is impossible to elevate and maintain the alkalinity within physiological limits for any appreciable length of time. The bromides elevate the alkalinity even to the normal of the control cases for a certain time, but on continued administration, and even when the dose is increased, the alkalinity fails. The best results were obtained from strontii bromid, sodi bicarb, aa: gr. 15 *ter in die;* for some time the alkalinity was maintained at a high value, but only to fall again. Suprarenal extract has apparently little effect on the alkalinity. The effect on the mental state was good, and all the patients subjected to the treatment recovered from their mental confusion much sooner."

One case escaped the headache usually following the fits.

"In all the cases the number and frequency of the fits were much increased, and on this account the suprarenal treatment was stopped. These results are very different from those obtained by Dr. Hill,"[16] who reports improvement from the use of suprarenal therapy, both as regards the mental state and the frequency of the attacks.

SYMPTOMATOLOGY—CEREBRAL LOCALIZATION.

Phelps,[17] from a study of brain injury and disease, reinforces the view of Bianchi,[18] that the frontal lobes are the seat of the "psychic" functions proper, and particularly advocates that the left prefrontal region is especially concerned in mental processes.

X-RAY LOCALIZATION.

Charles K. Mills[19] reports a case of brain tumor localized by the *x*-ray, which confirmed the clinical diagnosis, being the second instance of this nature, the first being by Church.[20]

Gould[21] contributes a critical study of DeQuincey, Carlyle, Darwin, Huxley and Browning, as regards the cause of their chronic ill health. His conclusions, supported by arguments that are well worth consideration by the neurologist, are, that the opium habit of De Quincey, the ill-temper and dyspepsia of Carlyle, the neurasthenia of Darwin and the headaches of Huxley and Browning were all due to eyestrain, and could have been avoided by resort to modern methods for the detection and correction of errors of refraction.

LUMBAR PUNCTURE.

The usefulness of this procedure as a diagnostic aid has been extended to surgical diagnosis by Tuffier (vide Hughes[22]), who suggests that a blood-stained cerebrospinal fluid means vertebral fracture.

Monod[22] has found leucocytosis of the cerebrospinal fluid in locomotor ataxia and in general paresis, but "nothing significant" in alcoholism hysteria, hemiplegia or neuritis.

REFLEXES, ETC.

Babinski has enriched our list of clinically available signs by the addition of five within about as many years. Some of these are so little known in America, generally speaking, that brief reference to them here may not be amiss.

1. The "Babinski sign"[23] proper, or the "toe sign," is a reflex extension of the great toe in response to mild plantar irritation. This sign continues to hold its own as a most reliable indicator of organic disease of the "pyramidal" tract. The normal plantar reflex is a flexor movement of all the toes.

2. The achilles tendon reflex is a plantar flexion of the foot at the ankle joint, following a tap on the tendo-achilles. The patient, during this procedure, kneels on a chair or lounge with the feet hanging over its edge. The response (plantar flexion of ankle) is weakened or absent in true sciatic neuritis and in tabes. It may be absent early in tabes where the knee-jerks are not yet lost. (Bramwell, *Brain,* 1901, 554.)

3. The sign of "combined flexion of the thigh and trunk."[24] To investigate this reflex the patient is placed on his back on a horizontal surface with arms folded across his chest. He is then asked to assume the sitting posture without using his hands. In a hemiplegia of organic origin this effort is accompanied by a raising of the paralyzed limb, which is flexed at the thigh but extended at the knee. In a functional (or so-called hysterical) hemiplegia the paralyzed limb remains flaccid and parallel with the sound one.

4. The "platysma sign"[24] of Babinski is obtained by asking the patient to forcibly open the mouth against the resistance of the investigator's hand placed beneath the chin, or by asking him to flex the head on the neck while the operator applies resistance to the forehead. In either case the platysma contraction is absent or lessened on the paralyzed side in organic paralysis, while there is no difference in the two platysma contractions in a functional hemiplegia.

5. The sign of "exaggerated flexion of the forearm."[24] This is due to hypotonicity of the muscles by reason of which a greater degree of flexion is permitted on the paralyzed side in recent organic paralysis. In functional paralysis the hypotonicity is absent and the degree of flexion similar on both sides. Babinski remarks of this sign: "Since the phenomenon may occur to a slight extent in health, it is of value when it is very decided."

THE SUPRA-ORBITAL REFLEX.

This reflex, as described by McCarthy,[25] is obtained by tapping, with the finger or a light hammer, over the trunk of the supra-orbital nerve on the forehead. The normal response is a contraction of the lower eyelid. The presence of this response is evidence of integrity of the fifth and seventh cranial nerves. The reflex is present in central lesions involving motion or sensation of the face; absent in peripheral lesions of the fifth and facial nerves. It is important that the observer stand behind the patient in testing for this reflex, so as to avoid the involuntary winking due to visual-motor reaction.

THE LIP REFLEX OR "MOUTH PHENOMENON" OF NEWBORN CHILDREN.

While referred to briefly by Loos, 1896, and Escherich, 1898, Thomson[26] has given us a fuller and well illus-

trated account of this reflex, which has received little attention heretofore. It would appear to be one of the most fundamental organic reflexes which is essential to the very existence of the species, consisting as it does of a protrusion of the lips, and in some instances of sucking movements, brought out by tapping the upper or lower lip near the angle of the mouth. It occurs in all healthy newborn infants when they are asleep, according to Thomson. It seems to be exaggerated in infants who are taking chloral or who are having or about to have convulsions.

OPPENHEIM'S REFLEX.

If the inner side of the leg be stroked firmly from above downwards with the handle of a percussion hammer (or other blunt firm instrument) along the posterior border of the tibia or a little posterior to it, commencing about a hand's breadth below the knee and going downwards nearly to the ankle, the result in healthy individuals and in cases of functional nervous disease is either negative or it produces a plantar flexion of the toes.

In lesions of the pyramidal tract there is an extension of the toes and abduction or adduction of the ankle.

Oppenhein[27] is of the opinion that this reflex is not identical with Babinski's "toe sign," inasmuch as it is often present in cases of spastic paresis where Babinski's reflex is doubtful; moreover, it does not occur in the small proportion of healthy persons who exhibit the Babinski reflex; finally, the involvement of the tibialis anticus and occasionally of the peroneus is another point of difference from the phenomenon of Babinski.

ANKLE CLONUS.

Wier Mitchell[28] calls attention to the fact that the motor element of ankle clonus is manifested through the soleus muscle alone, the gastrocnemius taking no part on account of its relaxed state due to its femoral attachment.

THERAPY—HYSTERIA AND NEURASTHENIA—REST TREATMENT.

Dejerine[29] reports two hundred severe cases of this class treated by the Wier Mitchell plan of isolation, milk diet and rest, but without massage. He had only two failures. The treatment is also emphatically indorsed by the reviewer (Alexander Bruce).

We have heard so much of the "rest" treatment of neurasthenia since its introduction to the profession by Dr. S. Wier Mitchell, some years ago, that it is a trifle refreshing, to say the least, to find the pendulum swinging to its antithesis, the "work" cure.

A group of contributors on the subject are noted: Pearce (massage), *Internat. Med. Jour.*, 1902-03; Sinkler, Hydrotherapy, *Milwaukee Med Jour.*, 1901; Pearce, F. S., *Alienist and Neur.*, 1902, p. 259; Schwab, S. I., *Interstate Med. Jour.*, 1902, 248.

A pertinent query in this connection would appear to be: Have we not been a little too liberal in the application of the term "neurasthenia" as we were with "hysteria" until within a few years?

It is not possible that we apply the term neurasthenia —which should be literally translated, simple dynamic weakness due to lowered vitality—to a large group of affections characterized by "irregularity in function," or "lack of balance" in dynamogenesis.

In such cases a transfer of function is the logical method, and here the "work cure" finds its place. True exhaustion, it appears to the writer, must still call for rest.

RAYNAUD'S DISEASE.

Cushing[30] advocates "treatment by the tourniquet" to counteract the vaso-motor spasm of Raynaud's disease. The case reported (in a woman of 35) was a severe one, with decided arterial spasm and great pain, accompanied by a local asphyxia of all the digits, with almost daily exacerbations. Superficial gangrene of one or more of the toes or fingers occurred on several occasions.

"On Nov. 10, 1900, during an exacerbation of pain and asphyxia chiefly affecting the left upper extremity, the flat rubber bandage was first employed as a tourniquet about the upper arm. Its application caused considerable local discomfort and pain referred to the side of the thorax (inter costohumeral?)

"On its removal, after one or two minutes' application, a bright flush of the extremity followed, with increase of surface temperature and a much more readily palpable radial artery. The vaso-motor relaxation lasted only a short time, but the patient expressed a sensation of considerable relief. From this time seems to date the beginning of her improvement.

"The tourniquet was applied daily to one or another member according as the symptoms indicated.

"The application was finally extended to periods of five minutes or longer.

"The relief to the burning pain was so pronounced that after the first few trials the patient was not only very willing to submit to the temporary discomfort of constriction, but would call for it."

Serum therapy continues to hold out hopes to the neurologist. Its use in pellagra by Ceni[7] has been already alluded to.

Bruce,[31] after a trial of serum treatment in paresis, concludes as follows:

1. "General paralysis is a disease directly due to poisoning by the toxins of bacteria, the point of attack of which is through the gastric and intestinal mucous membrane.

2. "The poisoning is probably a mixed poisoning, but the bacillus coli is apparently one of the noxious organisms.

3. "The result of treatment with serum, taken from a case of general paralysis in a condition of remission and injected subcutaneously into an early progressive case, points strongly to the fact that some form of serum therapy is the proper treatment for this as yet incurable disease." He now proposes to use serum from a horse immunized to the bacillus coli.

Dormiol, a hypnotic and sedative, has received attention from A. McGugan,[32] who considers it "equally effective" as chloral and pleasanter though more expensive. Other writers speak favorably of the remedy (see Amer. Year Book M. & S., 1903, 526). The dose is stated at thirty to sixty minims of a 50 per cent. solution.

THE NEUROLOGIC PROSPECT.

The two great problems in intimate relation to biologic progress, "the struggle for existence" and "the survival of the fittest," give us little trouble in a practical sense, since they are solved for us in the vast laboratory of Nature. From the enormous mass of material there worked over, however, there must result, as in most laboratories, a considerable proportion of "by-products," to borrow a chemical term—biologically speaking—of organisms below the standard; again others that are perhaps above it.

In other words, the more or less "unfit" are produced along with the "fittest." This gives rise to a third

problem, which we may term "the utilization of the unfit."

To the various attempts of civilization to solve this problem we owe the existence of medicine, religion, law, ethics and art in general. There arises from its attempted solution such important and perplexing subproblems as:

1. The management of the mentally afflicted and of the physically helpless from various causes.
2. Of the criminal and dangerous classes generally.
3. Of the inebriate and moral invalid.
4. The question of the legal responsibility of various defectives.

Most questions of therapy in general.

In short, the extensive series of problems presented by the necessity for intelligent care of the defective, the delinquent and the depraved. It would be a narrow view from the standpoint of civilization, which would seek only the extermination of these classes, for it is a self-evident truth to the thoughtful, that they are necessary by-products of the laboratory in which Nature works out her most important ends. It remains for us, therefore, to utilize and improve or render them harmless.

The first of these subproblems, the management and treatment of the mentally afflicted and otherwise helpless, so as to obtain the best practical results, is yet in process of solution. Much has been done, but more remains.

A growing tendency to combine the heretofore widely separated subjects of neuropathy and psychiatry is evident from a glance at the world's literature. It is being recognized that their separation has been too radical. By the reception of the acute insane into the general hospitals the best interests of these patients, from a therapeutic and economic standpoint, is often conserved, and at the same time the teaching of psychiatric medicine to the general practitioner is made more effective. It is probable that we have gone too far in the separation of these closely-related subjects and that the complete general hospital of the future must provide for both classes of patients.

In the words of Maudsley: "Mental disorders are neither more nor less than nervous diseases in which the mental symptoms predominate, and their entire separation from other nervous diseases has been a sad hindrance to progress."

Sibbald,[33] in an able article on this subject, says: Wards for mental diseases do not require to be distinguished from other medical wards, and residence in sick wards does not entail the industrial and social injury that as a matter of fact follows residence in an asylum. Such wards have also the advantage over an asylum that a patient who goes there is saved from the mental shock which is often felt on entering an institution largely devoted to the care of the incurably insane. The writer can emphatically indorse this view of the subject from his experience in the wards of the Cincinnati Hospital, where a limited number of acute insane are treated.

The establishment of special or "psychopathic hospitals" for the separate treatment of the acutely insane, is along the same general line of progress and has been vigorously advocated of late years. I need only refer to the able address of my predecessor (vide Dewey[35]) for the details.

Peterson[36] and Brower[37] also contribute important articles on this subject. In the establishment of separate institutions for the epileptic the states of New York, Ohio, Pennsylvania, New Jersey and Massachusetts have already taken an advanced stand, and their example is likely to be followed elsewhere

THE HOSPITAL FOR CHRONIC DISEASE.

In our anxiety to provide proper hospital accommodations for the acutely ill there is some danger, according to Dr. E. W Taylor,[31] that we may overlook the claims of the chronic invalid. At present no provision is made for such except as paupers, in institutions variously characterized as infirmary, poor-house, alms-house, etc.

Dr. Taylor's contention that the interests of these patients and of the public in general would be better subserved by removal of the stigma of pauperism so far as possible is well taken.

A movement toward the solution of the second subproblem on our list has been inaugurated by the establishment of separate hospitals for the criminal insane in New York state, and the subject is now being agitated in Ohio[38] and elsewhere.

As regards the third problem, the care and treatment of the inebriate, it has been solved only so far as the well-to-do are concerned by private institutions, many of great merit and doing excellent work. The work should be extended so as to be available to those of the most limited resources.

In attempting the solution of the problem of the utilization of the unfit the physician has to deal with many who have been launched on the sea of life to make their "struggle for existence" with insufficient vital capital; with others who receive a fair start in this respect, but whose working capital has been impaired by the various stresses of circumstances, which we call "disease" and "accident"; and finally, with the very large number whose dynamic potentiality is sufficient for ordinary needs, if properly directed and conserved, but which fails to meet extraordinary demands or improper use. It is evident that "the strenuous life" is not for either of these classes.

The prophylactic and therapeutic efforts of the physician, therefore, must be largely addressed to the maintenance of nutrition, the regulation of function and the conservation of energy.

TEACHING OF PSYCHOLOGY AND PSYCHIATRY.

As an important adjunct to the better management of the above problems we need chairs of psychology and psycho-pathology in our medical colleges generally. (vide Persching[39]). Many have not even full chairs of neurologic medicine proper. It is largely due to this omission, and the consequent indifference of practitioners to psychiatry as well as psychotherapy, that the various isms, pathies and "cults" flourish as they do.

To successfully solve this problem we must do better than they, i. e., we must add to a sound therapy based on solid anatomic, physiologic and pathologic foundations, the same subtle, but none the less effective, psychotherapy which is the sole weapon of the pretender.

TO SUMMARIZE THE OUTLOOK:

We may look for important aids to neurologic progress, to serum and other antitoxic therapy; to cytodiagnosis and hematologic procedures generally; to organic and electro-chemistry; to prophylactic hygiene and dietetics; to a wise adjustment of function to structure; to special institutional measures and to better facilities for teaching neurology in general, including psychology, psychiatry and psycho-therapy.

The future of neurologic medicine as worked out along these lines will be of vast importance to the welfare of humanity.

"All things come to him who waits," *he who would utilize them must act.*

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THE DENTAL NURSE.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON STOMATOLOGY AT THE FIFTY-FOURTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION AT NEW ORLEANS, MAY 5-8, 1903.

M. L. RHEIN, M.D., D.D.S.

NEW YORK CITY.

In officially opening the meeting of the Section on Stomatology, I desire to tender to the members my high appreciation of the honor conferred in asking me to preside over your deliberations. It has been the aim of our Section to encourage the membership of men who are deeply interested in the scientific advancement of this specialty of medicine. On this account our numerical strength has not been great, and I trust that the members will be prompt in attendance at the opening of all the meetings, so that the magnificent program prepared for us by our worthy secretary will receive the attention and discussion which it merits.

Our propaganda in regard to a better education of the dentist in the principles of general medicine, as well as a better knowledge of dental principles in medical education, is making slow but sure headway. The cause has the hallmark of truth emblazoned on its banners, and is bound to prevail, however prolonged the struggle may be.

It is unnecessary for me to take up your time with a summary of the scientific work of the year. It speaks for itself in our professional literature, with which you are familiar. Our daily occupation as stomatologists includes the treatment of diseases of the oral cavity, primarily with a view to the preservation in a state of health of the teeth, on account of the great value they bear to the health of the general body. The art and handicraft of dentistry has taught us how to cope with dental caries successfully, so that no person in the civilized world at the present day need lose a single tooth from this cause alone.

Many people, however willing they may be to employ our services, are constantly losing teeth in consequence of various pathologic disturbances of the peridental tissues. The symposiums held in past years by this Section on interstitial gingivitis, pyorrhea alveolaris, etc., indicate how well we recognize the increasing number of teeth lost by this means. When this lack of inherent vitality of the tooth's periosteum has reached a certain stage, where not only seven-eighths of the root surfaces are covered by nodular secretions, but retrograde metamorphosis, in its peculiar way, is working towards sepsis and the destruction of cell tissue, we realize that such affected teeth are beyond human intervention. We also know that these very teeth, doomed to be lost as they are when too little vital connection is left, could have been preserved indefinitely if proper hygienic care and treatment had been instituted at the right time and kept up in a systematic way at regular intervals.

Preventive medicine, with its accompanying benefits, has been well understood since the time that Jenner proclaimed the virtues of vaccination. Since then prophylaxis has invaded the domain of nearly every disease and its science and practice is daily increasing and its field of usefulness becoming better known.

Its value in the province of stomatology is well known to the poorest dentist in the land. The cleansing and polishing of every portion of exposed tooth surface, at regular intervals, in such a way as to preserve the tone and health of the contiguous capillary circulation, will indefinitely preserve the life and stability of the human teeth. With a full knowledge of the inestimable value resulting from such systematic treatment, it is painful to admit that, as a rule, the general public get absolutely no benefit from the knowledge of the profession on this subject.

Like many other virtues, prophylactic treatment of the teeth is well understood by all dentists and practiced by only a few stomatologists. It is scarcely necessary for me to attempt to draw a pen picture of what the dentist does under the pretense of cleaning teeth, when requested to perform this service, or to speak of the wilful neglect thereof by the majority, when no especial demand is made by the patient. You have all examined the mouths of such patients, who inform you that for years their mouths have had the constant care of Dr. X., and he has cleaned their teeth every year. You have found secretions of years deposited on the roots. The more posterior and inaccessible the teeth the greater the extent of deposits. You are not surprised at finding such teeth becoming loose, with a surrounding pericementum more or less inflamed, and corresponding loss of soft tissue from superficial necrosis.

They come to us in all stages of tissue loss, from those easily cured to those irretrievably lost. You can not fail to recognize the picture, and neither can you fail to place the responsibility for this wholesale destruction of human teeth on the dentist who has failed to apply the principles of preventive medicine.

Are we to assume, from a study of this sad picture, that our calling is made up of men lacking in character and principle? Most emphatically no; in no specialty will be found men with higher attributes of character, in every sense of the word, than in this of ours.

THE DENTIST'S ASSISTANT.

There are very good reasons why this most important duty to our patients is seriously neglected. The necessity for performing the operations immediately necessary for the repair of existing lesions in tooth structure and adjacent tissue is of paramount importance. They are more than sufficient to take up all the time of the man with an average practice. The difficulty of receiving commensurate pay for the hours of time required in faithfully carrying out the treatment by prophylaxis, brings up the question of expediency. It is true that Dr. Smith of Philadelphia claims to personally give his patients this treatment at regular intervals. If an effort were made to follow out this method in an average practice, there would be time left for nothing else. It certainly is the consensus of professional opinion that the busy practitioner can not give up his valuable time for this tedious, monotonous and irksome labor, however important it may be for the salvation of the human teeth. A small number of us have tried to solve this important problem by employing an assistant practitioner to attend to this department. In the judgment of your chairman, who has tried this method for twelve years, it has failed to satisfactorily solve the problem.

The employment, in a private office, of a graduate to make a specialty of this work is very likely the best remedy we have had at our disposal up to the present time. The greatest objection to the plan is the inability to retain a graduate possessing ordinary ambition and talent a very great length of time in this position. It is impossible to obtain satisfactory results in this treatment if it is necessary every year or two to place a new assistant in this department. The patients object to these changes, and can not fail to contrast the work of the new assistant, who has to be freshly taught the character of the work desired, with the final work of the last assistant, which has become well-nigh faultless from a couple of years of constant practice. In discussing this subject with prominent men, it has been generally conceded that far better results could be obtained if suitable female assistants, not graduates, were specially trained and employed for this work.

In some of the states the examining boards have threatened prosecution for infraction of the dental law if such a course be pursued; consequently, it has not been adopted, much to the loss of the general public.

This brings up the question whether the cleansing and polishing of the teeth, massaging the gums and the application of remedial agents by non-graduate assistants, under specific prescriptions and directions of the attending stomatologists, are infractions of the law.

It might as well be said that the administration of drugs hypodermatically, the introduction of sounds and catheters, lavage and enemata, the dressing of wounds and numerous other services performed under medical direction by trained nurses are all infractions of the medical law. Take away the trained nurses from the physician and surgeon and it would be apparent at a glance how it would interfere with the number of his cases, to say nothing of the inferiority of the resulting attention which is such an important adjunct whenever the nurse is in attendance.

THE DENTAL NURSE.

If this correctly describes existing conditions, it follows, as a natural conclusion, that the problem of how to systematically carry out the prescriptions of dental prophylaxis would be easily solved by the introduction of the trained dental nurse.

In the State of New York, during the present session of the legislature, a law is being passed, placing the trained nurse under the jurisdiction of the State Board of Regents, which necessitates that they should possess the proper qualifications in education and practice. In view of the high esteem held for the work of the trained nurse, it appears remarkable that the sphere of her usefulness has not long since been extended to our own specialty.

It would be an easy matter to add to the training schools for nurses a department of dental nurses. Applicants for admission to such a course should be required to pass a satisfactory preliminary examination. Outside of the general didactic instruction which they would receive, they should obtain additional instruction in regard to the oral cavity, etc., from a stomatologic member of the school's faculty. They would also receive their manual training under the same supervision, and in the hospital material they would find ample opportunity for perfecting their working technic.

It is difficult to estimate in advance how much benefit would accrue to a large percentage of hospital cases if their mouths could be properly cleansed and rendered sterile.

Would it be claiming too much to say that there are serious conditions where such treatment properly administered might prove the turning point toward recovery or, in organic diseases, toward a material improvement in the general condition? Perhaps their greatest sphere of usefulness would be to place the mouths of patients in a sterile condition preliminary to undergoing surgical operations. When we consider all the devices used in the modern operating room, all devoted to obtaining ideal aseptic conditions; when we consider the patient anesthetized in an atmosphere barren of pus germs, with the single exception that too frequently the patient's mouth is redolent with putrescent filth, washed with secretions of pus; when we consider such conditions, with a celebrated surgeon about to enter into the digestive tract, can we longer question the value of the preliminary treatment by the dental nurse in such a case? Then there is the infirmary practice connected with all the large hospitals. Here is a field for the doing of the greatest good to this vast class of unfortunates. The cleansing of the mouths of properly selected patients in the dispensaries, combined with the proper education for preserving oral hygienic conditions, would be of greater value in the uplifting of the masses than any other means at present employed.

Having graduated from the training school, it would be in keeping with our other laws to compel the nurses to pass a state board examination. The passing successfully of such an examination would then entitle them to be registered as trained dental nurses. Being so registered, they would be able to practice their profession in private life. By that is not meant the fact that they would be licensed to go around indiscriminately, cleansing the mouths of the people.

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Their license to practice dental nursing should mean that they are permitted to cleanse, polish and medicate the dental territory only under the prescription of the patient's attending stomatologist.

As chairman of your Section, I ask your approval for this means of placing within reach of the human race, the boon of prophylaxis in stomatology. There are three good reasons why it should receive your endorsement: First, it will tend materially toward the public good. Second, it will open to womankind a new vocation second to none in desirability. Third, it will materially aid the stomatologist in the quality of his results.

38 East 61st Street.

DISCUSSION.

DR. M. H. FLETCHER, Cincinnati—I fully agree with the ideas advanced, and it seems to me there should be channels through which we could bring the matter prominently before the public, but we all know how long it takes the public to receive a new fact. Darwin's theories have only begun to be accepted. I believe if it were possible in some way to advertise the simplicity of this plan the matter would advance in general favor very rapidly. All dentists know that such treatment is most desirable. To begin at home, those who teach should impress it more fully on their students. We should teach all our patients that the simple fact of cleanliness prevents disease as much or more than anything else. To impress this fact on those with whom we are in daily contact, I think, should be our conscientious duty. It would seem becoming in us as a company of progressive men to give our endeavors to the accomplishment of some plan whereby the suggestions in the address can be carried out.

DR. GEO. J. FRIEDRICHS, New Orleans—I do not take much stock in the continual teaching and preaching of cleanliness as a prophylactic; the mere knowledge that cleanliness is a prophylactic does not always result in benefiting those who most faithfully carry out the teaching. This rule applies to mankind in general. A physician is certainly well posted in regard to the effects and consequences of the abuse of morphin, alcohol, etc., yet in spite of his knowledge becomes their slave.

DR. M. L. RHEIN, New York—In setting forth this proposition it has been my object not to enter into any question of etiology or methods of treatment, or anything of that kind, but to consider simply the advisability of adding to the dental laws in the various states a clause, not necessarily permitting the employment of dental nurses, but defining their limitations, making it apparent that they are legally entitled to be of use. I am certain that as a physician if I desired to employ a nurse for this purpose I have the same right to that use as I have in any other capacity as a physician, and I am sure I could carry my point legally; but it is my desire to have their sphere well defined so that there would be no objection to their use by the general dentist. I do not care to enter into the question of how difficult it is to bring a new plan before the public, but in my own mind I am certain that if my plan meets with general approval the next step will be easily accomplished, that is, the addition of a training school for dental nurses to the regular training school for nurses. I trust that the gentlemen, in order to facilitate the other business, will give the Section the benefit of their thought on simply this particular point.

DR. GEORGE F. EAMES, Boston—I have in my practice carried out many of the principles which Dr. Rhein has enunciated here, and have trained assistants to supplement me, rather than to take entire charge of what we may call prophylaxis. When I begin a prophylactic treatment of the mouth my assistant usually sees what I do. I take opportunity then to explain what is to be finished or I direct such an assistant to do such and such things. When a graduate receives his diploma from a dental college or from any institution, it grants him certain privileges, but it is understood that with these privileges within the law there are also certain restrictions. It is so with the appointment of graduate nurses or dental nurses. They do have the privilege of doing certain things within the mouth under the direction of the stomatologist, but there are restrictions to this as well as to other privileges. It seems to me we can not but endorse the plan that has been suggested by our chairman.

DR. THOMAS L. GILMER, Chicago—I thoroughly agree that it is necessary to have a better way of accomplishing the work spoken of than by the methods now prevailing. How we can bring this about I do not know. It would be better, it seems to me, to have regularly educated specialists for the work. The treatment of diseases of the mouth offers a good field for specialized workers. It does not seem to me that we could safely trust the treatment, for instance, of the so-called pyorrhea alveolaris, except the merest first cleaning of the teeth or some subsequent medication, to any one not thoroughly skilled in the work. I consider the treatment of this disease one of the most difficult things we have to perform, that is, the thorough removal of the serum deposits and the surgical treatment of the alveolus. As to the training of nurses in the hospital for the care of the mouths of their patients, I am in accord; and in my connection with hospital work and the teaching of nurses I give positive and detailed instruction to the nurses in the care of the mouth, and especially in the preparation of the mouth previous to surgical operations. We should continue the education of the people by personal advice in the care of the mouth and teeth. I believe I save more teeth and do far more good in the prevention of disease of the mouth by constant insistence and admonition on the care of the mouth by the patient himself than by all other means.

DR. GEORGE J. FRIEDRICHS, New Orleans—My remarks were not to find fault, but to commend, for "cleanliness is next to Godliness." Since cleanliness is helpful, but is not an absolute prophylactic of tooth structure, we must also look on the other side.

MR. T. E. CONSTANT, Scarborough, England—None of us have any doubt at all that the public would be greatly benefited by such a scheme. Our laws in England are such that the education of such a body of semitrained people might act injuriously. Whether this would be so in this country I am not in a position to say, but that is the aspect of the question that we would have to consider. On the broad question as to whether the suggestion is a good one for the public generally I think there could be but one answer, that which has been given by the other speakers.

DR. W. E. WALKER, New Orleans— I do not see any harm that could come from the plan and I can see infinite good to come from it. When in general practice a very large portion of my time was spent in doing the very work that the paper suggests, having great assistance in the work by lady helpers. While I would certainly agree with Dr. Gilmer that the treatment of Riggs' disease from the surgical standpoint would be rather unwisely placed in the hands of such semitrained assistants, at the same time they could be of great assistance if used somewhat as Dr. Eames says, to supplement the work of the dentist; and the paper does not carry with it anything more than a proposition to supplement with the addition of legalizing their practice. As the Doctor said, he has a right to employ trained nurses to help in this work, whether they come from a training school or have been trained individually. But, the idea seems to be to make it beyond the possibility of criticism should they be employed by a dentist who is not a physician, that he may freely employ these trained assistants in his office and not run any risk of criticism or legal complication. It would certainly seem to me much better than, as the Doctor says, employing undergraduates that you can not hope to keep with you more than a year. I certainly can not see any objection to it, and I hope the Section will endorse the ideas.

DR. H. E. BELDEN, New Orleans—I think we should have dental assistants to carry out our wishes in cleaning the teeth. The cleansing is an irksome task and demands a great deal of time and attention. The lines for a livelihood are

closely drawn and we have to devote ourselves to the more scientific and lucrative tasks in our profession, and if we can put off those duties which can be performed by trained assistants I think it becomes us to do so. We help our patients by giving them more treatment (by our trained assistants carried out under our supervision) at the same expense to them and greater profit to ourselves, as we can give more attention to those things requiring greater skill.

DR. C. V. VIGNES, New Orleans—I think the idea of having such trained assistants is a very good one. From a legal standpoint, I don't know what condition exists in England, but I know that here anybody can practice almost what he wants. It is suggested that these special trained nurses be women because the young man or graduate at the end of a few months would go into general practice. I believe that the trained nurse would do about the same thing. She would go into general housekeeping. I don't know how it obtains in other parts of the country, but down here trained nurses are pretty liable to get married. The vocation appears to be a stepping stone to matrimony. I believe the field is a large one for young men, and that it would assist a great many to earn an honest living and keep them in the straight path; that is, they would practice in an ethical manner if they had the right start. I think it is an opening, not so much for the trained nurse as for the benefit of the young dentist who has a very hard road to travel.

DR. EUGENE S. TALBOT, Chicago—I have no fear as to the future education of the dentist. The experimental stage is passed. Dental education commenced to shape itself when universities established dental departments. Although for fifteen or twenty years after that time there seemed to be a chaotic condition, yet the past five years has worked a wonderful change in the department of dentistry. The adoption of a four years' course is the culmination of the educational problem from a dental standpoint. The university will place this department of medical science on an equal footing with other specialties of medicine. The Section on Stomatology of this Association has played a prominent part in shaping dental education in America, and I for one am perfectly willing to let the universities work out the problem.

Credit should be given the late Dr. A. C. Hart, San Francisco, for suggesting the cleansing and polishing of the surfaces of the crowns of the teeth. Scientifically he did more in the study of this method than any individual. His death was a result of his enthusiasm along this line of investigation.

I agree with Dr. Rhein in relation to specially prepared women for the care and cleansing of the teeth, as first suggested by Dr. Wright, Cincinnati. That such women should be connected with hospitals to care for the mouths of the sick is certainly very important. How physicians can expect to treat their patients sucessfully with uncleanly mouths is a problem. It would seem to me that this paper should not only be published in THE JOURNAL of the American Medical Association, but later in all medical journals in this country and in Europe, and that reprints should be sent to all the hospitals. Every physician should read it. The dentist should insist on his patients coming to his office every three months and have the teeth cleansed. When the patients understand that by so doing they are saving dollars in fillings, etc., they will readily acquire this habit. If all dentists would do this the public would be educated soon to this method.

DR. M. L. RHEIN, New York—In my practice the plan of the return of the patient, as mentioned by Dr. Talbott, is pretty well in effect. Every one of my patients is sent for at regular intervals. The value of this method as a preventive of caries was not touched on. The removal of the racemose leptothrix, which is so baneful in its effects in early life, is of the utmost importance as pertaining to this subject.

In regard to Dr. Gilmer's remarks, it is far from my purpose to permit a trained dental nurse (if I may use the term) to perform what he and I, and I believe all dentists, consider one of the most serious and difficult surgical operations. That they should not be permitted to surgically clean alveolar sockets in peridental diseases, or do any of the ordinary forms of dental work is the main object I had in introducing this matter and in asking for your approval of the suggestion to legalize the position of a dental nurse so as to legally establish the limits of her sphere of usefulness. Personally I would prefer that these assistants be women, the reason for which I will not take the time to explain. In my opinion they might be permitted to remove deposits in normal mouths, but in distinctively pyorrheal and interstitial gingivitis their duty would come only after the surgical work had been completed by the surgeon. They would follow his direction in thoroughly polishing the tooth structures and in medicating the tissues. In conjunction with this comes up the point raised by Mr. Constant. His objection to its usefulness is based on a condition of legislation which does not exist in the United States. I understand that in England the passage of such a law might give improperly trained persons an insight in dental practice and thus enable them to take an improper opportunity to work their way before the public as dentists without being interfered with by the law. In the United States, in most of our states, at the present day, the laws are rigidly enforced. This is especially true in the eastern part of the United States, and here it would be impossible for infractions of the dental law to go unchallenged. I would also say, in reply to Dr. Gilmer, that it is a great pleasure to me to know that there is one hospital in the United States where the mouth is properly prepared preliminary to any surgical operation. I know of no such condition in the city of New York. In that respect we are rather behind the west. Outside of that one hospital I think the general surgeons in Chicago or of the northern cities do exactly what the general surgeons do in the east: when they open the peritoneum, when they have an operation for appendicitis, or a laparotomy, the condition of the patient's mouth is not considered. That has been my experience in the east, and I have seen some such conditions in the west. I do not for an instant suppose that any of us who do surgical work would permit any patient of ours to go on the operating table in such condition. I refer to those medical men who are absolutely devoid of the ordinary rudiments of knowledge as to the oral conditions and the septic influences that may proceed from the oral cavity.

Original Articles.

SUNSHINE AND FRESH AIR VS. THE FINSEN ULTRA-VIOLET RAYS AND THE ROENTGEN RAYS IN TUBERCULOSIS OF THE JOINTS AND BONES.*

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PHILADELPHIA.

The increasing use of the Finsen light and of the *x*-rays in the treatment of cancerous lesions of the skin and deeper tissues, and especially their use in lupus and other tubercular skin affections, naturally arouses the question of the utility of these rays in the cure of tuberculosis of the joints and bones. The results thus far obtained are certainly sufficient as regards tubercular lupus to warrant the continuance of our efforts in this direction, but the opportunities for noting the effect on deeper tissues in tubercular joints have not yet been sufficient to warrant definite conclusions. A large number of cases will be required to decide the question of benefit, since from the nature of the disease speedy conclusions will be unjustifiable. The course pursued by the tubercular process in joints is always slow, and there are such great dif-

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, De Forest Willard and J. E. Moore.

ferences in the rapidity of progress that the surgeon is very likely to draw wrong conclusions from the results of any method of treatment instituted.

The inhibitory action of the actinic light ray and of the *x*-ray on the growth of tubercular bacilli in the laboratory is undoubtedly positive, and such experimentation is an essential part of our progress in accurate knowledge. Combined with these experiments, however, must be careful clinical observation and an accurate recording of facts as they present themselves. I am free to confess at present writing that no definite conclusions can be formulated; only that progress, though slow, is hopeful. At the present time we are erecting at the University Hospital a complete plant for the thorough testing of the therapeutic effect of these light rays, and also of the *x*-rays, and I trust that at the end of five years certain positive data will be secured.

Any method or form of treatment that will tend to retard or inhibit the growth of these bacilli is helpful in the long fight with tuberculosis, and the part of the surgeon must be twofold: First (and I purposely put this proposition first), the fortification of the individual for the conflict; second, the destruction of the enemy.

The secret of success in the battle with tuberculosis of the bones and joints rests overwhelmingly on the resistive power of the individual. While, therefore, the Finsen light and the *x*-ray may have their effect in retarding or inhibiting the growth of the bacilli in a local area, it should be remembered that even the total destruction of this small company means but the temporary crippling of the invading army, and that real safety lies entirely in the permanent upbuilding and strengthening of the resistive powers.

The tubercle bacilli are vegetable parasites subject to the fundamental laws of organic life. Their growth is favored by a lack of resistance of tissues and by a fertile soil. This lack of resistance may be due to traumatism of moderate, rather than of severe, degree, or to temporary constitutional causes, or it may be the result of an inherent and hereditary cell weakness. When special soil and special environment are provided, these bacilli will run a speedy and definite course. That their course can be retarded or totally inhibited is definitely proven both in laboratory and clinical experience. Their growth is facilitated by darkness, dampness, moderate hyperemia and all depressing physical and mental influences. They are resisted by light and air and food, and thorough oxygenation of the tissues, by environment, soil and phagocytic defense. The absence of any of these favorable conditions means growth; their presence, destruction of the foe.

The most powerful agents in our possession for the inhibition and destruction of these micro-organisms are sunlight and fresh air and abundant nourishment. The sun's rays are undoubtedly more helpful than any artificial rays, just as natural waters compounded by the chemistry of the Ruler of the universe differ very decidedly from the waters artificially compounded by the chemistry of man.

While experimentally the strongest sunlight in summer takes more than an hour to kill bacteria, yet the ultimate influence is undoubtedly more beneficial than artificial contrivances. The large proportion of hours of sunshine in Colorado undoubtedly has much to do with the reputation of that region for the cure of tuberculosis. The beneficial effect of the sun bath was well known to the ancient Greeks and Romans, and we have been too tardy in again bringing into service measures which they learned from practical experience, and which we in our blindness have overlooked. As surgeons, we can with benefit learn a lesson to-day from the washerwoman and the farmer.

In my own hospital wards I have always considered the sun porch as the most important of all the means of cure. Every tubercular joint case confined to bed, either with horizontal extension or with fixation or traction of joint, spends the entire day at all seasons lying directly in the sunshine, his eyes and head being protected by a green shade attached to the head of the bed. The effect on health, appetite and cell resistance is simply marvelous. When able to walk about, patients are encouraged to play in the sunshine, not in the shade. I have not infrequently sent out into the sunlight and fresh air apparently hopeless cases of joint disease with lardaceous organs, and have had them return with sinuses healed, waxy changes arrested and health restored. Of course, it is necessary that surrounding conditions, even in the country, shall be healthful, since many farm houses are unsanitary in the extreme.

In the treatment of tuberculosis of the joints not only are mechanical and operative measures necessary, but all the accessory conditions of health are essential: a superabundance of easily digested and nutritious food, and clothing adapted to the surrounding conditions, in addition to the sunshine and air. There are few individuals who have not observed the influence of darkness and poverty and vice on the general health, and yet few physicians realize the importance of securing the brighter and better conditions. The time is near at hand when sanatoria for the treatment of tuberculosis of the hard parts, as well as those of the soft tissues, will be established. Outdoor life in tents, either in the pine forests or in the hospital grounds, promises a simple practical application of the principles enumerated. Cheeks will grow more rosy, flesh will increase, energy will improve, and resistive power will speedily be such as to control and overcome the tubercle bacilli.

McKenzie and Galloway[1] have also adopted this most excellent principle of treating cases of tuberculosis of joints in the open air by having them live in tents, thus giving patients all the advantages of sunshine and fresh air that are now in vogue in the lung tuberculosis sanatoria. The appetite is greatly improved under such conditions; more food is taken, and it is better digested.

Dr. Flick's regulations at the White Haven sanatorium for consumptives are just as applicable to joint tuberculosis as to phthisis cases: patients to live in tents and to spend their life absolutely out of doors, air to circulate freely through the sleeping apartments, ample bed covering to be supplied. Each patient to take at least three quarts of milk and six eggs a day; more if possible. In addition, a good dinner in the middle of the day, and a light breakfast and supper. Dinner of roast beef, vegetables and dessert. The gain or loss in weight are the best indications for adaptation of treatment and food.

Poncet, of Lyons, and Perdu and Blanc[2] have also applied the method practically by exposing joints covered with iodoform gauze to the direct action of the sun for hours in the day. As the case recorded by them, however, had had a previous excision of the knee, the report only shows that the sun's rays acted helpfully in the cure.

Eve[3] applied the light and heat of ordinary electric light bulbs (96 candle power) to a number of cases of arthritis with benefit. Mobility increased and pain was almost entirely relieved. The limb was placed under a canopy made of blankets thrown over a cradle, and the

heat raised to 250 F. The beneficial effects of the heat seem to have been increased by the bright light.

Kime[4] uses direct sunlight, concentrating it through an adjustable photographic ray filter, a plano-convex lens of 18 inches focal length and 6 inches in diameter. Behind it, ¾ of an inch distant, is placed a plain plate glass. Between the lens and the plate glass is a space for the blue copper alcoholic solution, which cools the sun's rays and absorbs all but the blue or actinic rays, which are rich in their chemical and germicidal powers. Although such a light focussed to a small point is hot, yet it can be regulated so as only to produce hyperemia, new vigor, new cell action and repair.

Heliotherapy or actino-therapy would probably be the best designation for this method of application of the concentrated sun's rays to the cure of disease; electro-phototherapy for the condensation and application of electrical rays to the same purpose.

Within my recollection, Butler in the 60's, successfully employed sunlight for the treatment of epithelioma of the skin, using for the purpose an ordinary biconvex lens.

Finsen at Copenhagen, Rikli, Koch, Strauss, Arloing and others, deserve great credit for their experimental and practical application of the bactericidal action of the sun's rays.

Finsen has shown by his experiments that the blue, actinic or chemical rays, which include the violet and ultra-violet rays, are the only ones that have an especial influence upon animal life and are bactericidal. The red, green and yellow heat rays have no effect upon the micro-organisms. It is the actinic rays which produce sunburn, not by burning the skin, but by slight irritation which produces the pigment deposit. Finsen also experimented with the effect of rays of the sun in smallpox cases, and found that if the patient was kept under red glass and red curtains, etc., that there was no scarring. The concentrated sun's rays have been proven by experiment to be capable of destroying bacilli in a few seconds, instead of hours, and it is also claimed that a concentrated electric light in which the ultra-violet rays are in abundance has a greater bactericidal power than even the sun's rays. These ultra-violet rays in the electric light are in shorter wave lengths, while in sunlight they are of longer wave lengths; the shorter ones have already been absorbed in the atmosphere.

The actinic rays penetrate much deeper into the tissues when the latter are rendered bloodless by pressure or by ice. The passing of the ultra-violet rays through ice renders them more destructive to the tubercle bacilli from the fact that the chilling of the skin by the ice renders it more anemic, and thus gives the rays a better opportunity to act upon the bacilli. Ice is transparent to the violet and ultra-violet, but is opaque to the red and ultra-red rays. Pigmented skins and cicatricial tissue interfere with the penetration of light rays, as does also great vascularity. The skin and intermediate parts should be protected when the *x*-rays are used, but do not need protection, save from the heat, from the Finsen light. In order to retain all the ultra-violet rays (which are the most efficacious) blue sulphate of copper was first used, as blue excludes the red rays, but now only ordinary cold running water is employed between the lenses to arrest the red rays and cool them. Finsen also used a lens of rock crystal in place of glass, in order to allow the ultra-violet rays to pass through more easily. The lamps used were from 25 to 75 amperes, since above that strength it was found difficult to cool the rays sufficiently by the use of water. Finsen's large lamps have 35,000 candle power.

In the lamps made in London by Marshall and Woods and Leslie Miller, an interrupted current is used of about 12 volts, and the sitting is prolonged from five to twenty minutes. With some of the new lamps an area of the size of a dollar can be treated at one exposure. In the sunlight baths, Finsen has his patients walk about naked. Finsen's electric bath consists of gigantic arc lights, 100 amperes, suspended six feet from the floor. Patients lie naked on couches. He uses the voltaic, instead of the incandescent, as the former contains more chemical rays. His theory is that the chemical light bath differs materially from the incandescent light baths.

If the *x*-ray can modify local tuberculosis (Muhsam, Fiorantine and others) the Finsen rays are much more likely to produce a beneficial effect.

The lamp now used in the Broca Hospital, Paris, is smaller than Finsen's and more easily handled. The carbon is made with a core of cast-iron, thereby emitting, it is claimed, three times greater amount of ultra-violet rays. The exposures only last twenty minutes, instead of seventy-five, and 30 amperes are used instead of 75 or 80. Anemia of the tissues by pressure is also not considered essential, and the application is made once in two days.

Kjeldsen's lamp is less expensive than Finsen's, and does not require specially trained nurses for its application. Lamps of 5 amperes are employed, and instead of carbon, iron electrodes are used, which are very rich in chemical, and very poor in heat, rays. It is claimed that a lamp of 5 amperes gives the same result in three minutes that is given in an hour by the use of 80 amperes with the old apparatus, the cost being about one-tenth, and the assistants required being few. It is also claimed that tubercular bacilli, gonococci and streptococci, and bacteria coli communis were inhibited by the light in five seconds, and that anthrax was killed in thirty seconds.[5]

Widmark, of Stockholm, used but a 1,200 candle power electric light, passing the rays through water to absorb the heat rays, then by carrying the rays through a plate of glass, he excluded the ultra-violet rays and reported that under the influence of all the rays except the ultra-violet, the skin was unaffected; under the influence of all except the heat rays, the characteristic inflammatory symptoms developed. It seems probable, therefore, that the ultra-violet rays produce the known effects of light upon the skin.[6]

Erythema solare may be avoided by care and by the not too rapid use of the rays.

If the current is too strong the skin swells and redness and blisters may appear, but sloughing does not occur. Pyrogallic ointment has been used in lupus to make the skin more penetrable to the rays, and may be also useful in joint disease.

The disadvantages of the Finsen method, which will undoubtedly be lessened when the practical mind of the American applies itself thoroughly to this subject are: first, the limited area of the body which can be exposed to the ray of a single lens; second, the length of time required, and third, the large staff of special nurses that must be engaged. An area of only one and a half centimeters can be treated in an hour.

The cost of the running of the Finsen light is a serious one. A recent estimate makes the expense of a four-light lamp for a year to be $3,000.

As regards the risks, the reaction caused by the ultra-violet rays is much less severe than that following the use of the *x*-rays; the heat rays being interrupted by a stream of cold water, there is, of course, less danger of

burning of the tissues, and the tanning or sun-burning of the skin renders increasing strength possible.

King has advanced the theory that the parasite of malaria scarcely ever develops except in darkness, and that it may be the red color of the blood that favors its life, while the violet rays interfere with its evolution. His theory of the action of quinin in the cure of malaria is based upon the fluorescent properties of the drug, which act as a destroyer of the malarial parasite, and that esculin and fracsin give the blue rays. Iodin, which is not fluorescent, unites with the starchy substances in the system, forming an intense violet blue. Methyl blue, which has been introduced for chronic malaria, may also act in the blood by producing rays which are injurious to the growth of the malarial parasite. The painting of the skin with methyl blue is said to enhance the efficacy of the rays.

General Pleasanton's[7] "blue glass theory," which was lauded thirty years ago, undoubtedly had some merit. He built his sun rooms with every eighth pane of blue.

The theory advanced by Bean[8] seems reasonable that a restorative change may be effected in a pathologic cell by which instead of being destroyed, its character may be so altered that it becomes again a normal cell. Such a change may be occasioned by exposure to light, by alteration of temperature, or by some vito-chemical alteration or molecular vibration at present unknown to us. Each individual difference in rapidity of vibration of the light waves evidently has its special effect on cells. If such be the case it is not necessary that the rays should have positive bactericidal influence, but only that they possess an alterative effect.

The photo-chemical properties of sunlight and of the electric Finsen light require much further investigation, both as to their physical and their therapeutic properties.

The observation was made long ago that the course of tuberculosis differs in brunette and blonde children. Recent observations made upon calves used in the manufacture of animal vaccine, show that the pustules do not develop as well in animals with a dark hide, but that the light-skinned ones are preferable.

Light rays cause contraction in living protoplasm,[9] but Hammer does not believe in the direct action of light on the blood corpuscles. He supposes that certain nervous elements of the skin, in connection with the pigment cells, are put in motion by the ultra-violet rays, and that this motion leads secondarily to hyperemia, inflammation and pigmentation. His experiments on tadpoles, salamander eggs, earthworms, etc., endeavoring to explain the phenomena and to study the relationship between motility of cells and monochromatic light are interesting in showing that light provokes movements in the fetus, and that this faculty must be attributed to the violet rays. White light causes sensibly less action. It is the chemical ray undoubtedly which is the special agent in influencing cell action. Electric light baths and incandescent lamps contain very few chemical rays, not, in fact, as many as ordinary daylight. They can not, therefore, possess the influence of sunlight. These electric light baths probably affect the cells through their heat rays, while a chemical light bath acts differently.

The Roentgen or *x*-rays have been used by myself, by Murphy and a number of other surgeons in the hope of influencing the tubercular process in joints and bones. As remarked in the earlier portion of this paper, it is too soon to determine results, for the reasons there set forth.

The *x*-rays have been proven to have an inhibitory influence not only on the tubercle bacilli, but also on the cholera spirillum, the prodigiosus and the colon bacillus. In the laboratory, after twenty to thirty minutes' continued exposure to the rays, many of the bacteria are killed, and multiplication ceases in nearly all. Some of the micro-organisms, however, survive. Experiments on animals do not seem to warrant the conclusions that the same action can be expected when these pathologic cells are surrounded by living tissues. Animals inoculated and exposed to the *x*-ray have died sooner than similarly inoculated animals not thus exposed.[10]

Various theories have been advanced as to the method by which the *x*-ray energy is exerted on the cells; each theory has been succeeded by another as equally plausible, but all lack positive demonstration.[11]

The bactericidal power is apparently not due either to the heat, the fluorescent light, electricity or ozone.

In our present state of experimentation various therapeutic methods will be employed. One of these has been the alternation of the Finsen with the *x*-ray; Finsen one hour; *x*-ray, five to eight minutes. The Finsen light has less penetrating power than the *x*-ray, but the combination of the *x*-ray to destroy the germs and the Finsen to act as a curative agent seems to be most advisable. The hard *x*-ray tubes have apparently greater penetrating power than the soft. Tanning of the skin is best done by the slow process. The skin and intermediate parts should be protected when the *x*-rays are used, but do not need protection from the Finsen light, save by cooling.

The amount of irritation produced by the *x*-ray on a part depends on various conditions; the distance from the tube, the time of exposure, the hardness or softness of the tube, the cutaneous idiosyncrasy of the patient, the length of exposure and the personal equation of the experience of the operator. Undoubtedly, however, the nearer the tube and the longer the exposure, the greater will be the danger of burning.

The experiments with *x*-ray on cancerous growths, especially of the skin, and even of the deeper tissues, leads to hope that the life process of tubercular cells may be altered, and that destructive changes may be retarded, if not altogether inhibited.

The superficial effect of either the Finsen or the *x*-ray on lupus can not be taken as a guide to their effect on deeper tissues in the joints and bones, yet we may reasonably hope that if the former can be influenced, human ingenuity will in time discover a method for the alteration of deeper tissues. In this connection it is interesting to note the recent achievements of Goodspeed that the wave or ray emanations from the human body are sufficient to impress a photographic plate. Very remarkable also are the continuous forces emitted from that new metal, radium. With the advancement of science and of medical knowledge, tuberculosis must and will be conquered.

The application both of the *x*-ray and of the Finsen light is rapidly becoming wider in its scope, but they should be used not as a substitute for mechanical and operative measures, but to supplement them, and to improve or cure the inoperable cases.

CONCLUSIONS.

1. Sunlight, fresh air and good food, together with fixation and protection of the affected joint, are the most important agents in the contest with tubercular infection.

2. Direct exposure to the rays of the sun is essential, and all hospitals should be provided with solaria or sun porches and roof gardens.

3. Patients lying in bed should have the diseased joints exposed to the direct rays of the sun, their heads and eyes being protected by green glasses or shades. The joints may be covered with blue, so as to secure easiest passage of the ultra-violet actinic rays, and local medications rich in iodin may be also employed as desired.

4. Tent life on the hospital grounds, or better, in the open pine forest, can be successfully employed through both summer and winter.

5. Sanatoria should be established for tuberculosis of the hard tissues, as well as of the soft.

6. The concentration of the sun's rays by lenses, as suggested by Butler, Finsen and others, is of positive benefit in bactericidal influence. As final curative agents, however, the direct sun's rays are most effective. Electrical rays can be used when sunlight is lacking.

7. The Roentgen rays in the laboratory have an inhibitory power on the tubercle bacilli, and may prove useful in restraining the growth of these micro-organisms in living tissues.

8. The actinic rays and the *x*-rays are both apparently helpful in the fight with tuberculosis, but several years will be required to determine accurately their effect. They should be employed not to supercede, but to antedate and to supplement operative procedures, to assist the mechanical protection of the joint, and to increase the general therapeutic measures employed.

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A STUDY OF THE HISTOLOGIC CHANGES IN EPITHELIOMA UNDER THE *X*-RAY.

A PRELIMINARY REPORT.*

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MINNEAPOLIS.

The striking and unforeseen curative effects of the Roentgen ray on epitheliomata make it probable that a careful study of the histologic changes occurring in these tumors while under treatment must prove both interesting and instructive.

Medical literature is rather barren in studies of this sort, most opinions put forth being founded on insufficience or absence of observed facts. Note the opinion solemnly set forth in a journal devoted to the exploitation of *x*-ray work: "The beneficial influence which the agent (*x*-ray) undeniably exercises on superficial cancer is due to *x*-ray vibrations acting on the cell elements of the growth, which elements are too weak and lacking in vitality to reach maturity and become the specialized tissue for which they were destined of themselves, in such a way as to give them new vitality, and hence ability to reach maturity and their normal ultimate structure."

That is, the *x*-ray is a sort of reformatory treatment by which the erring cancer cells are spanked and brought to a realizing sense of their vagrant ways, become reformed and proceed to grow into normal adult tissue; a very beautiful effort of the imagination, but needing a substratum of facts.

Many equally remarkable explanations of the *x*-ray effect could be quoted, but this one will suffice.

Dr. A. G. Ellis has made an important contribution to this subject from a strictly scientific standpoint in the *American Journal of Medical Sciences*, January, 1903. He studied four cases, two of which were epithelioma, which had been subjected to varying amounts of exposure to *x*-rays, and has determined some interesting facts. As he gives the literature at length, it will not be necessary to quote authorities.

His conclusions are that the study of these cases shows: 1. Necrosis of cells and trabeculæ of varying

Fig. 1.—Photograph of Case 1 before treatment.

degree. In Case 1 (a cancer of the breast) there is marked fatty degeneration. 2. Increase of elastic tissue. 3. Fewer areas of lymphocytic infiltration in one case after exposure, about equal numbers in others. 4. A tendency to occlusion of vessels by deposits on their inner surfaces. 5. Practically entire absence of infiltration by polymorphonuclear leucocytes. He says: "The unsatisfactory clinical results, as well as the slight microscopic changes in Case 3 (epithelioma) can probably be safely attributed to the presence of the exceedingly numerous keratinized areas or 'pearls.'"

The results of the present study are quite at variance with the above in many respects, as will be seen later. The larger part of the material studied was obtained from one case, which came under observation Dec. 10, 1902, and the research work was begun December 18, some time before the publication of Dr. Ellis' paper.

CASE 1.—A. B., Norwegian, aged 52, single, gave the following history: Eighteen months ago he cut the back of his right hand with a beer bottle, and the cut became infected and healed slowly with a dense raised scar. Soon after an elevated wart-like growth appeared in the scar, which was repeatedly cauterized with pure carbolic acid without much effect. His general health has been good. There is no cancer in his ancestry

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or environment. An examination shows a fungus ulcer about three inches in diameter on the back of the right wrist. It is raised above the skin more than one-half an inch, the elevation being greatest at radial edge. The extensor tendons of the fingers move freely, but just at their radial side the growth

Fig. 2.—Fatty degeneration in epithelial pearl. Hermann fixative 500 diameter.

has deep attachments. There is no enlargement of the axillary lymph nodes. In view of the impossibility of excision it was decided to subject the growth to *x*-ray treatment, as it seemed the only chance of saving the hand.

On December 10, 11 and 12 he was given twelve minutes' exposure to a one-inch tube at five inches. On

Fig. 3.—New blood vessel containing red blood cells in center of epithelial pearl.

December 16 and 17 he was given fifteen minutes at five inches. On December 18 the first block was excised, being cut from the non-sensitive surface of the ulcer, half an inch from the skin edge. December 22 and 23 he was given twenty-five minutes' exposure to a low tube at five inches. December 23 block excised. December 29 block excised. From December 29 to January 2 he was given daily twenty minutes' exposure to a low tube at five inches, and blocks were removed every other day until the whole fungus part of tumor had been softened and came away. In all, seven blocks were secured, covering the time from the fifth exposure up to the eighteenth, in all, thirty-six days.

HISTOLOGIC CHANGES NOTED.

Each block was cut in three portions and fixed in different fixatives. Hermann, Mann, Zenker and 25 per cent. formalin being used. The blocks were carried up, embedded in paraffin and cut in sections of from three to ten microns in thickness. The sections were examined unstained from the Hermann fixative for fat, and others were stained in various ways. The Hermann sections were washed in ether to differentiate fat from other substances taking osmic acid. Hematoxylin and eosin, hematoxylin and Van Gieson, Weigert's resorcin stain for elastic fibers, and Pianese IIIb for degenerations, Plimmer's stain for parasites were used. By these methods quite a number of changes could be made out, which can be briefly tabulated as follows:

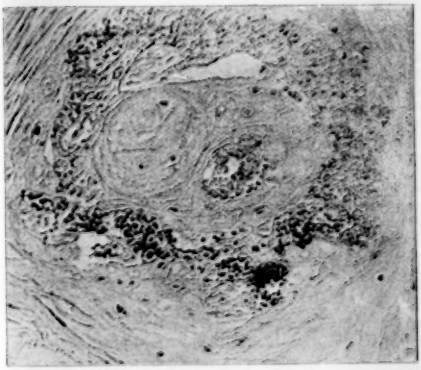

Fig. 4.—Circle of new vessels in epithelial pearl.

1. *Fatty Degeneration.*—This is marked in all sections from all blocks. In the early sections it is most marked in the epithelial cells at the periphery of the pearls, the fat occurring as granules grouped about the nucleus, and in many cases in the nucleus itself. Fat exists, however, in a large percentage of the epithelial cells, and this infiltration seems to increase with the number of exposures to the *x*-ray, until the cells disintegrate, when in the final stage of detritus it is seen mainly in the leucocytes, either as a degeneration, or possibly as a phagocytic inclusion.

In view of Unna's statement that fatty degeneration does not occur in epitheliomata, this is certainly a noteworthy effect of the treatment.

2. *Vascular Changes.*—In the earliest slides there are marked evidences of the formation of new blood vessels. They are seen between the epithelial cells and noticeably in the centers of many pearls. They are at first filled with red blood cells with an occasional white cell, but later the red cells disappear and the vessels are packed tightly with the polymorphonuclear leucocytes. These leucocytes are also seen between the epithelial cells, and

finally separate them into bands and detached cells surrounded by a reticulum filled by white cells.

3. *Elastic Tissue.*—Weigert's resorcin stain shows considerable elastic tissue in fibers and granules, usually in the immediate neighborhood of a new vessel, but not in its walls.

4. *Hyaline Degeneration.*—As this degeneration is a regular part of the life history of an epithelioma, it is not surprising that it should form a large part of the picture in many of the sections. It is especially noticeable in both pearls and single cells about the middle of the series, being replaced by coagulation necrosis in the latest slides. In many of the later slides the hyaline bodies of Unna are plentiful, as well as many cell inclusions, which, stained by the Pianese IIIb, or by Plimmer's method, are indistinguishable from the so-called Plimmer and Russell bodies as figured by Gaylord. As these do not appear in the early sections, but only when karyokinesis has ceased and degeneration of various kinds are very marked, it is difficult to understand how these fuchsin bodies can have any etiologic relation to cancer. They are indistinguishable as to staining reactions from the other hyaline bodies noted above.

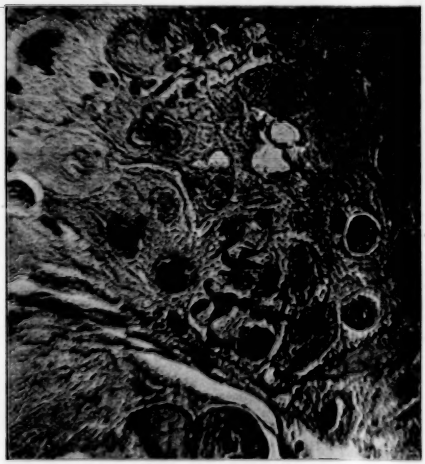

Fig. 5.—Elastic tissue. Weigert resorcin-safranin.

5. *Necrotic Changes in Cells.*—In some of the early slides karyokinesis is well marked, but later it entirely disappears, except an occasional cell in blocks taken from near the skin border of the ulcer. Chromatolysis begins quite early and increases until in the last sections there is hardly an intact nucleus. At the same time there is fusion of the cell bodies and loss of all cell outlines. Hyaline degeneration of single cells is very common, as before stated, as are the fuchsin bodies.

6. *Final Result.*—The latest sections obtained before destruction and liquefaction show an interesting and remarkable picture. Nothing is left of the epithelial structure but some dimly staining masses of cells in coagulation necrosis, with the rest of the section composed of a fine reticulum taking the acid stain, having its spaces filled with polymorphonuclear leucocytes, fragmented nuclei and other detritus, while interspersed through the mass are small clumps of epithelium and single cells, which have no nucleus and have lost their outline, and are just ready to pass into coagulation necrosis. In areas where the final fluid detritus was confined the microscopic appearance was like a so-called

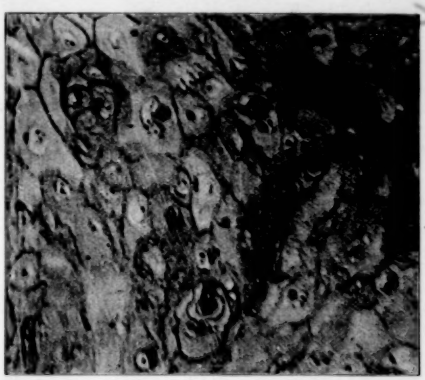

Fig. 6.—Shows hyaline cell inclusion similar to Plimmer bodies.

laudable pus, and the microscope showed only polymorphonuclear leucocytes, broken-down epithelia and free fat.

The study of sections from other epitheliomata, after varying exposure, gave results corresponding to the above, although in small growths it was impossible to get more than one or two blocks. One case especially, an epithelioma of the ear, after four ten-minute exposures, gave a picture like the final one from Case 1, except that

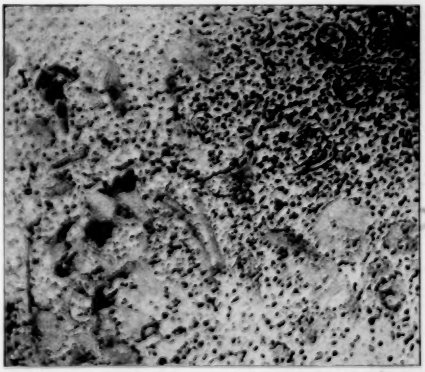

Fig. 7.—Shows general breaking down with infiltration of leucocytes into and between the epithelial cells, hyaline degeneration of the cells and at outer edge coagulation necrosis of whole mass.

the leucocytic infiltration was almost entirely composed of plasma cells, instead of the polymorphonuclear form.

It will be noticed that there are several very striking differences between the results of the study noted above, and those obtained by Ellis in the two cases of epithelio-

ma studied by him. These are the vascularization and the leucocytic infiltration which are probably only phases of the same process, and the difference was probably due to the destructive effect of the treatment in my cases, as compared with the negative clinical effects noted by him.

Certainly his explanation of the resistant character of the pearls, preventing curative effects, seems doubtful, at least, in view of the very early and decided changes in them noted above.

The explanations offered by some writers that the degenerations observed and final necrosis are due to decreased blood supply, which is caused by the thickening of the inner coats of the blood vessels, find no support in this study, as the abundant formation of new vessels and their distension makes improbable any obliteration of the different vessels. Unfortunately, none of the sections cut were from locations which could give any information as to whether the endarteritis observed by so many was present.

It seems probable that different epitheliomata may offer different degrees of resistance to the disintegrating effects of the *x*-ray, just as their bearers may show different degrees of susceptibility to the burning effects of the ray, but when necrosis is finally attained there will be characteristic changes in the cells.

It is to be regretted that sections were not taken from Case 1 before treatment, and more frequently during the active treatment, but the idea of making a study of the case occurred only when rapid results began to be noted after four treatments, and the subsequent progress was so rapid that all available tissue was destroyed when the seven blocks were obtained.

It may be of interest to hear the subsequent history of this case which began so auspiciously. Early in January, after some six weeks of treatment, all the elevated portion of the growth was destroyed and there was left a deep portion which extended into the bones of the carpus, and under the small tendons of the thumb toward the wrist. After wasting a great deal of time in a vain attempt to cause necrosis of the deeper parts, a small, apparently new growth was noticed at the radial edge of the ulcer. This determined an erasion under an anesthetic, which showed that the growth had progressed under the skin at the radial edge of the ulcer, in spite of vigorous *x*-ray treatment. All the epithelioma was carefully scraped away, and all overlying skin was excised, as well as the small extensor tendons of the thumb, which were hopelessly involved, and there is now a clean defect, with no signs of epithelioma, which is healing rapidly under mild *x*-ray treatment.

The tissues excised, which included nerves, tendons, vessels and new-formed scar, all exposed to many *x*-ray treatments, will furnish material for a later communication.

CONCLUSIONS.

1. It is probable that when epitheliomata react favorably to *x*-ray treatment that characteristic histologic changes will be found.

2. The important early changes are fatty degeneration and vascularization of the epithelial pearls.

3. Leucocytic infiltration and various degeneration processes complete the destruction.

4. Bodies indistinguishable from "Plimmer's bodies" multiply as epithelia degenerate.

NOTE.—I wish to acknowledge with thanks the aid in this study of Prof. Margaret S. Nickerson, Drs. Louis B. Wilson and Arthur T. Mann, without whose assistance the work would have been impossible.

DISCUSSION

ON PAPERS OF DRS. WILLARD AND STEWART.

DR. HENRY A. CHRISTIAN, Boston—I wish to add one case to the report of Dr. Stewart, a case of epithelioma of the back of the hand of the distinct cauliflower type. Before any treatment was undertaken a portion of the tumor was excised and sent to the pathologic laboratory of the Boston City Hospital for examination. It was a typical specimen of epithelioma, with the usual cell nests and with no particularly marked amount of inflammatory reaction. After treatment for a considerable length of time a second portion was excised. Pathologic examination of this showed that the epithelial cells in the cell nests were dead. They no longer stained and, what is particularly interesting, they were in many places surrounded by foreign body giant cells. In other words, the dead epithelial cells had changed from a living acting part of the growth and now simply acted as a foreign body and were being destroyed by the giant cells. There were no polymorphonuclear leucocytes present. There was no change in the connective tissue cells, while the epithelial cells were entirely dead.

Another point of interest was that a portion of the hand protected by the lead shield and supposed to be non-carcinomatous, i. e., to lie beyond the border of the growth, was in reality carcinomatous. This portion protected from the *x*-rays by the lead shield showed no such change. In other words, the epithelioma survived where the lead shield protected the growth; and there was death of the cells where the lead shield did not protect it.

Just what the process in these cases is I am not prepared to say. I do not think that too much importance should be placed on the fatty degeneration described by Dr. Stewart. Fatty degeneration has, so to speak, lost in recent years some of its pathologic standing. We no longer look on it as such an important degenerative process. Then, fat is frequently present in cells of the body under normal circumstances. Furthermore, the reagents used by Dr. Stewart for obtaining the reaction demonstrating fat are open to some objection. The main reagent used was osmic acid. We know that osmic acid stains other things than fat, for instance, certain keratin granules in the epithelial cells of the skin, also, the fatty substance of the sebaceous glands. Now, as the epithelioma originates from the skin these substances normally present must be borne in mind. If a substance stains black with osmic acid, this is not positive proof that it is fat, nor is the presence of fat always evidence of a degeneration.

Another interesting point is the presence of fat in the polymorphonuclear leucocytes. This occurs very frequently; in fact, it is generally present where there is an inflammatory process. It is also to be found in the polymorphonuclear leucocytes circulating in the blood. This is true particularly where there is a marked leucocytosis. I have had an opportunity to study these cells, particularly in association with pneumonia, and have found fat very constantly present in them.

Another point on which emphasis was laid is the great number of polymorphonuclear leucocytes present in this case. Is that due to the effect of the *x*-ray or to something else? In this case I understood that the surface skin was ulcerated. In such a condition you would expect to find polymorphonuclear leucocytes present at the outset. Again, when we have polymorphonuclear leucocytes and an inflammatory process we generally have the formation of granulation tissue; in other words, the formation of new blood vessels, so that the statement that the formation of new blood vessels is caused by the *x*-ray is possibly also open to criticism. I think the fact that the epithelial cells are dead, as shown by the case reported by Dr. Stewart and the case I have reported, are rather important factors. It is possible that simple inflammation may have had something to do with the formation of the polymorphonuclear leucocytes and the new formed blood vessels. The question remains open as to how far fatty degeneration, inflammation and cell death are due directly to *x*-ray action. Very general conclusions are not, of course, to be drawn from single cases.

DR. EDWARD H. NICHOLS, Boston—I agree with the beginning of Dr. Stewart's paper, but there are one or two things later on which I am compelled to differ with him. In regard to those lesions which were selected for this *x*-ray treatment as epidermoid cancer or epithelioma, which, after a greater or lesser number of treatments, have disappeared, the ulcers healed over, the capillary growth melted down and entirely disappeared and new skin formed, such cases are constantly being reported as cured. I think we should consider all those statements of cures with the greatest suspicion. It is true that for some reason or other the surface condition has apparently improved. The fact that the new skin has formed over the area of the wound is far from proving a cure of that case of cancer. I have had considerable opportunity during the last three years of observing the histologic changes following *x*-ray work. The cases referred to by Dr. Christian I have had the opportunity of seeing. The changes as we have seen them following the use of the *x*-ray have shown no peculiar characteristics. The changes in cases of epidermoid cancer treated by the *x*-ray show, as a rule, an increase, and in many cases stimulation of the cells. And I would defy anybody to recognize this change as a characteristic one. You see exactly the same changes as you would see in cases of degenerative carcinoma, and this has been deemed by some men to be due to the action of the *x*-ray on certain portions of the epidermoid growth, but they are really indications of the growth of the cancer. The *x*-ray acts as an irritant, and acts on those portions of the cancerous growth which are less resistant than the sound tissue. I think it can be perfectly explained by saying that the *x*-ray acts as a mild irritant, not producing burns, yet sufficient to cause increase in the epithelial cells at first and later disintegration. One other thing that needs to be borne in mind is that the *x*-ray can also produce epidermoid cancer. At a meeting of the American Dermatological Association a year ago last August, a case was reported of extensive epidermoid cancer of the hands of a man who had been using the *x*-ray, followed rapidly by metastasis. There is at the present time an operator in Boston who has lost three fingers on one hand and two on the other due to extensive epidermoid following rapidly after very extensive *x*-ray irritation, he having had a distinct *x*-ray burn. In regard to the bodies that Dr. Stewart mentioned, I have seen their work in their own laboratories, so perhaps I can express an opinion, and I have seen the definite Plimmer bodies of Greenough, and I do not think these objects seen by Dr. Stewart were the Plimmer bodies. I think every surgeon should bear in mind very carefully the fact that the *x*-ray is liable to produce cancer. In certain cases it may do good, and for that reason I think it is better to first remove the epidermoid cancer and then use the *x*-ray, and in certain cases it may be of advantage, but I think in all cases operative treatment should be the first procedure.

DR. JOHN RIDLON, Chicago—In regard to the treatment of tuberculosis of the joints by sunlight, I do not think that we should assume too large a hope in this direction. Sunlight or any other light alone does not cure tubercular joints; they must be treated by mechanical means, immobilized, or else no good can result from the exposure to the sunlight or any other light. As to the effect of sunlight on tuberculosis of the joints, I am somewhat in doubt as to whether it is likely of itself to produce beneficial results. All of us who practice in large cities and large towns can see great gain if a child is exposed to the sunlight. On the other hand, in the case of tubercular joints in the children of farmers and people who live in the country, who are more exposed in the sunlight and fresh air, there is usually not so much improvement from further exposure to sunlight and open air. It would seem then that from clinical observation it is the change of environment that has the effect rather than the sunlight and air without the local environment.

I have had no personal experience with the *x*-ray treatment of tuberculosis. My office associates, Dr. A. D. Harmer and Dr. John L. Porter, have done considerable experimental work with the *x*-ray on tuberculosis of the joints, and such cases as we three together had that seemed to be favorable for experimental work we have subjected to that treatment. The cases were those in which the progress had been unfavorable under ordinary mechanical fixation. It was thought only fair that such cases should be selected and not those which were doing well under ordinary treatment. A considerable number have been subjected, during the last year and a half, to the *x*-ray treatment. Many have improved more rapidly than could have been expected without this treatment. The number, however, has not been sufficiently great for us to form any trustworthy conclusions. It has reminded me very much of the iodoform injection treatment, which was very much in vogue about ten years ago. Almost all of us used these injections of iodoform in the cases of tuberculosis, and we all thought that we were getting better results. We all know now that the injection of iodoform into tuberculosis of the joints is practically useless. So I fear that this *x*-ray work will turn out in the same way, and that, although a certain number of those cases do appear to be cured, it will not amount to very much. What we have learned is that when the superficial joints are benefited by the *x*-ray there must be very marked irritation of the skin. Tuberculosis of the hip joint and of the spine have not been benefited. Dr. Harmer has deliberately burned the skin in many cases, and he has found that he does not get as good results when the skin is not subjected to strong irritation.

DR. FRED. B. LUND, Boston—I have seen, during the past five years, cases of cancer treated by the *x*-ray. Surgeons recognize that epithelioma of the face, particularly of the rodent ulcer type, is a non-malignant form, that recurrence is slow, and that in the cases that have recurred there has usually been no glandular involvement. I have seen a great many cases of cancer of the face, many of the rodent ulcer type, that were really benefited by the *x*-ray treatment, and leave a most excellent scar, and some of our surgeons in Boston have stated (very prematurely, it seems to me) that the day of the knife in the treatment of epithelioma was past, and that we had no business to use the knife in those cases, but that they should be turned over to the *x*-ray treatment. On the other hand, I have seen some very sad results following that advice. A patient came in suffering with an epithelioma of the lip in a very early stage. Glandular involvement appeared soon after it was exposed to the *x*-ray, and he was treated by the *x*-ray without the slightest results. I have seen a number of cases of recurrent carcinoma in the breast glands treated without the slightest result. There are a certain number of cases of epithelioma of the face, of the more malignant type, in which it is of no value. I operated three years ago on an old lady 68 years of age. The cancer was excised and the wound covered with skin grafts; excellent results followed for a time. Then recurrence took place, and I excised the growth under local anesthesia. After operating on her 12 or 15 times, I tried the *x*-ray treatment for six months. At the end of this time the growth recurred with extraordinary rapidity, and the soft parts of the nose had to be excised down to the nasal bones. In other words, it seems to me that the *x*-ray is in the nature of a mild irritant or caustic, that it has an excellent influence on non-malignant growths, but that the malignant growths had better be excised. The ideal way perhaps is to first excise the growth and then in case of recurrence use the *x*-ray, but temporizing with the *x*-ray in the first instance is not only useless, but dangerous.

DR. JOHN W. BRANDAU, Clarksville, Tenn.—Is there any effect produced on the kidneys by the use of the *x*-ray in cancer of the cervix? In the past few months I have treated two cases of carcinoma of the cervix. One was of the cauliflower type, the other hard cancer. I had excellent results in both so far as the cancer was concerned. The cauliflower cancer underwent rapid degeneration, and after ten treatments of fifteen minutes each every second day the cervix was practically normal in size. In the other case the effect was very different. There was sloughing of the cervix after seventeen treatments covering a period of three months. In

both cases the pain was extreme previous to treatments; opium in some form being administered. After the second exposure there was no more need for opium. One of the women went to her home apparently cured of the cancer to await the results of the sloughing, with instructions to return in the course of three or four weeks for examination. In about four weeks there was suddenly almost complete suppression of urine, which was highly laden with albumin. In a few days she died from uremia poisoning. The other case died about eight weeks after treatment was discontinued from exactly the same cause, and what little urine I could get by catheterization was almost solidified by albumin on boiling. I would like to know whether any of the other gentlemen present have observed any bad effects on the kidneys from this treatment.

DR. J. E. THOMPSON, Galveston, Tex.—A few months ago a young man 29 years of age, with a large tumor over the stomach, was operated on, and it was found that the entire anterior part of the stomach and the lesser curvature was involved with a growth that afterward proved to be an epithelioma. There was almost complete obstruction of the pylorus for several weeks before the operation. I did a posterior gastroenterostomy and got immediate relief of the symptoms of obstruction. The growth appeared to be an extensive one, and about three days after the operation it occurred to us that it might be well to try the effect of the *x*-ray on this tumor. About forty-eight hours after the operation, I believe, we reopened the wound and packed the opening between the peritoneal parieties and the tumor, leaving this mass, which was about the size of a large orange, in the wound. We got profuse exudate. After 24 hours it ceased. We took out our own packing and found that the mass had been transformed into an external one. We then commenced the use of the *x*-ray, and after having used it for about a week, we noticed signs of increase in size, and a few days later the mass broke down and discharged profusely a cheesy matter mixed with pus. It then became apparent to us that we were going to have a fistula, because sloughing was extensive, and a few hours later, the nurse came to me and informed me that there was something in Mr. A.'s bed that looked like his breakfast. We found this to be true. A large opening was found in the stomach. We succeeded in packing this off, so that the patient could retain food sufficiently long to pass through our very large anastomosis into the bowel. He went to bed, was comfortable, took his nourishment well and enjoyed it. He seemed to have an especial liking for such indigestible foods as ham and bacon. He improved slightly in weight for two or three weeks, when he began to go down, and after about a month died from extreme emaciation. This, to my mind, seems to teach us some very interesting points. One is that we can not break down hard epithelioma with the *x*-ray. The second is that it is rather dangerous to try to break down a cancerous growth in the abdominal cavity. Third, the *x*-ray did not appear to have any prominent effect in checking the general growth of the epithelioma, which had become metastatic at the time of the operation.

DR. DE FOREST WILLARD, Philadelphia.—In answer to the question as to whether a blue medium is of value either with the *x*-ray or with the Finsen light, or with sunlight, it seems to me to depend entirely on the power of the medium to increase the force of the ultra-violet rays. Since the ultra-violet rays are therapeutically the potent ones, of course, the larger the proportion the better will be the result. The rays have proven themselves of value already in superficial tuberculosis and cancer, but we have by no means achieved the limit of possibility in the use of the sun's rays. I stated in my paper that we should use these agents as supplementary to our general treatment and not depend on them entirely. In regard to the use of the *x*-ray in tuberculosis, the benefit has certainly been sufficient to encourage me to use it further. Its influence in cancer and epithelioma has in my hand been helpful, but not curative. The Finsen light and the *x*-ray are still only in the experimental stage, and I have no anticipation that they will do more than act as accessories to general treatment. I expect to test them for five years. I do not expect to obtain any results that will be of value in a shorter time.

In reply to Dr. Ridlon, I would say that in my conclusions, I stated that sunlight and fresh air should be employed, "together with fixation of the joints." In another conclusion I said that this method should be employed, "not to supersede, but to supplement the mechanical and operative appliances." I took it for granted that no element would be neglected, and particularly the mechanical fixation, which is so important, in fact the most important element in inhibiting a destructive tubercular process.

In regard to the criticism that many farmer's children who live in the open air have tuberculosis of the joints, I would say that I have not infrequently found farmers houses in far more unsanitary conditions than prevail in the city.

Our patients are benefited in the city hospitals largely because we bring them out of the darkness, and give them good food, in addition to mechanical appliances.

The point that I wished to emphasize was that, in addition to all our other methods, we should employ sunlight, the *x*-ray and the Finsen ray, in fact everything that will help us in the desperate fight with joint tuberculosis.

DR. J. CLARK STEWART, Minneapolis—In answer to Dr. Christian I would like the permission of the chair to ask him a question, and that is, whether the washing of sections stained by osmic acid in ether and thus discharging the black color does not prove the blackened substance to be fat. The technical work was done for me by Prof. Margaret Nickerson of the University of Minnesota, and I am confident that Dr. Christian may accept all statements of fact as correct. In regard to the fatty degeneration, as I stated in my paper, the slides were washed with ether, demonstrating the presence of large amounts of fatty degeneration, and as Unna states that fatty degeneration never occurs in epithelioma, this pronounced fatty degeneration was considered worthy of mention. In regard to the vascularization being simply that of granulation tissue, I would say that the presence of the vessels long antedated the presence of anything which could be termed granulation tissue, and even of the leucocytes themselves. Later, where at first red blood cells had appeared in the new vessels, these were crowded with leucocytes, and still later, the leucocytes infiltrated the extravascular tissue. All the changes described in my paper were distinctly progressive during the treatment of the case. I don't attach much importance to the polymorphonuclear form of leucocytes in these sections as in two other cases where the resulting changes were about the same, the leucocytes were entirely of the plasma cell type. I was glad to hear Dr. Nicholls' remarks about the nonoccurrence of Plimmer's bodies in epithelioma. The bodies figured by me closely resemble those pictured by Gaylord in his article in the *American Journal of Medical Sciences*. The study of these cases shows certain positive results which must be of more or less value in explaining the results attained by successful treatment.

In regard to Dr. Willard's paper I can add just one observation of interest. I have treated one case of caries sicca of the shoulder joint with rather striking results. These cases, as you know, usually go on to ankylosis after about two years' disability, while the case under consideration attained about the same result after two months' treatment with the *x*-ray. Apparently the cicatrization and contraction of the tubercular tissue about this joint was very greatly hastened by the effect of the *x*-ray.

English the Universal Language.—A Spanish physician taking a post-graduate course at Vienna writes to the Madrid *Siglo Médico* that he had been informed that some of the lectures were delivered there in French and other languages, but found that this was a mistake. He says: "The lectures are exclusively in German or in English, and the latter is the truly universal language, and he who says the contrary, lies. (". . . *y en inglés, que es hoy el idioma verdaderamente universal: y el que dijera lo contrario miente.*") He adds that the North American colony there is "tremendous," and "Yanquis" are to be met everywhere, very frequently as the assistants at operations.

VARIX OF THE INFERIOR MESENTERIC VEIN COMPLICATED BY CHRONIC ULCERATIVE COLITIS—OPERATIONS.*

J. E. SUMMERS, JR., M.D.
OMAHA.

I am led to report the following case because the condition found is unusual, or has at least received scant attention at the hands of pathologists. For this reason I will give the history somewhat in detail.

History.—Mr. B., 34 years of age, was referred by Dr. I. Lukens of Tekamah, Neb. The following was elicited: When two years of age he began to suffer from prolapsus of the rectum and never received permanent relief of this condition until 27 years old. He was a rather puny boy and was not a robust man, although able to attend school and perfect his studies so as to become a competent school teacher. During all these years there had been a constant tendency toward rectal prolapse.

When 27 years old Mr. B. underwent an operation, some tumors were removed (probably hemorrhoids), three ligatures being employed. Following the operation the patient enjoyed fairly good health until the spring of 1901, when his general health became poor. In August, 1902, as the result of doing some unusual manual labor, the lifting of heavy joists, he was attacked with frequent desire to go to stool and the passing of considerable quantities of mucus and blood. During several days the mucous bloody discharges alternated with the passing of hardened feces; this condition was succeeded by an attack of diarrhea. Because of poor control of the bowels a pad had been worn continuously to prevent soiling by the discharges. The alternating attacks of constipation and mucous discharges continued from August, 1901, to March, 1902 when the man came under my care in the Clarkson Hospital.

At this time Mr. B. had the appearance of ill health, and poor nutrition; on examination the anal sphincter was found weak and incompetent, the rectum to the touch and by inspection was the seat of five ulcerations of different sizes, one being as large as a silver dollar and the others smaller. On introducing the sigmoidoscope numerous ulcerated patches were observed in the sigmoid. The edges of all ulcerations were elevated, and where palpable were, together with their bases, rather indurated; the surfaces were pale.

The treatment ordered was irrigation of the bowel, with bland or stimulating solutions of salt and silver nitrate; the recumbent position was insisted on and a restricted but nutritious diet prescribed. Little improvement followed this practice, although with some minor alterations it was kept up from March 13 until June 2. At this time I decided to do a left inguinal colostomy for the purpose of giving rest to the ulcerated sigmoid and rectum, as well as to admit of more positive local treatment.

Operation.—On opening the abdomen a surprising condition was revealed, the inferior mesenteric vein was very much enlarged and its walls thickened. All of its branches as far as they could be inspected were uniformly in the same strikingly swollen shape. Although I then realized that a colostomy would do little good the gut was fastened to the abdominal walls. After thinking the case over for a couple of days, I loosened the unopened gut and returned it into the abdomen.

Two months' further trial with local, dietetic and medicinal measures, there being no improvement, I opened the abdomen to determine whether or no there could be discovered in the pancreas or elsewhere along the route of the inferior mesenteric vein, an enlargement or interference by pressure on the vein near its entrance into the splenic vein. Nothing strikingly unusual was discovered about the pancreas except that it was thicker than normal and not quite so fixed. However, a considerably dilated stomach was found, and thinking this might, by dragging, possibly produce some interference or kinking in the circulation of the veins, a gastroplication was carried out after the manner of Moynihan. A Morrison operation was also done with the hope of relieving the portal system, and in this way lessening the congestion in the inferior mesenteric vein. My patient was much improved by these procedures; he gained in weight and his symptoms were better, but he was still an invalid. Two months later I established an artificial valvular fistula in the cecum for the purpose of complete, direct irrigation of the entire large bowel. Great improvement resulted from this last practice, the patient gaining 20 pounds during the next two months. There still was at that time some slight mucous discharge. I sent the man home, his many months' care at my hands having ended in a remarkably improved state. He was instructed to keep up the daily local treatment. A recent letter tells that he has allowed the fistula to close and that he is beginning to relapse. I have never seen such a uniform chronic enlargement of veins.

When we recall the fact that the inferior mesenteric vein passes under the pancreas on its way to empty into the splenic vein, and the many pathologic, as well as congenital, alterations that may be found in the pancreas, possibly the observations made at the time of operation would be sufficient to account for the varix. From this point of view, reasoning from everyday experience in varicose ulcers of the lower extremities, the ulcerated bowel must be looked on as secondary to the varix of the inferior mesenteric vein. From the point of view, however, of the fact that veins carrying blood from chronically inflamed areas sometimes participate in the changes incident to the inflammatory process, we might reasonably conclude that the varix was in part the result of the long-continued prolapsus of the rectum, and the accompanying ulcerations of both the rectum and sigmoid, and probably of the descending colon also. All other veins in the abdomen were apparently normal. The only organs whose size and position were found abnormal were the stomach and pancreas.

During the past year I have had a case of chronic ulcerative colitis, which I have cured by means of an artificial valvular fistula in the cecum. In both cases I established an opening for a 30 F. catheter, in order that I might employ a reasonably good-sized flushing stream. The use of the open appendix as a channel for irrigation seems to me like using a toy pistol when an efficient firearm is essential. It is an unusually large appendix that can carry an 8 F. or 10 F. catheter, both too small for other than dribbling irrigation. I must acknowledge that some distinguished authorities have found this, the appendix channel, useful. In my cases I believe I did better by my patients in removing the appendix from each.

DISCUSSION.

DR. F. D. SMYTHE, Memphis, Tenn.—The custom has been recently adopted at the hospital where I am attending surgeon to refer the cases of chronic colitis entering the service promptly to the surgeon for operation and treatment for the reason that medical treatment heretofore has proven unsatisfactory. It was formerly our custom to resort to dilatation of the sphincter and irrigation of the colon followed by application of silver nitrate. Improvement usually followed such a course, but the patient soon relapsed, necessitating a repetition of the treatment, the patient almost always finally dying or drifting to another physician to undergo a similar treatment, with no better result.

Dr. Goltman, Memphis, at a meeting some months ago, detailed a course of treatment that he used for acute dysentery, the main feature of which was the dilatation of the sphincter under anesthesia, which treatment he asserts is sufficient in his hands. I have never employed this method.

The plan adopted by Dr. Summers in the treatment of his case is the same that I have employed for some time and with

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

very gratifying results. I always make a good opening in order to introduce with ease a large tube for irrigation, paying no attention whatever to the appendix unless it is to effect its removal if time is not too much of a consideration. Such cases should be treated on surgical principles, thoroughly cleansed, rest of the part and attention to the diet. By such a course we have accomplished far more than was possible by medical treatment alone.

DR. SAMUEL E. MILLIKEN, Dallas, Texas.—Ulcerative colitis is one of our prevalent maladies. When Dr. Weir, New York, suggested last year at the session of the American Medical Association the use of the superfluous appendix as a means through which to reach the lower bowel, I was in hopes that I would have an opportunity of applying this method of treatment to some of our cases of ulcerative colitis, but up to the present time I have had no such opportunity. I have resorted to the various medicaments through the rectum and with varied and unsatisfactory results. I am glad to hear that there are better methods than those suggested by Dr. Weir. The methods suggested by Dr. Summers and the last speaker, i. e., the establishment of a fistula in the anterior wall of the cecum will possibly give more direct connection than the simple appendiceal method. I regret that an opportunity has not been afforded me to follow the suggestion, but it seems to me that this is a logical means of remedying what is with us a rather prevalent condition. Like the last speaker, I know nothing of the pathology which has led up to this condition.

DR. JOHN E. SUMMERS, JR., Omaha—I hoped that some one would say something about the anomalies of the pancreas or its changes in position. As the inferior mesenteric vein runs under the pancreas to empty into the splenic vein, which lies in a groove in the under surface of the pancreas, an obstruction in the return flow in the inferior mesenteric vein can be well imagined, provided there be an abnormality in the pancreas. I do not know what it was, but it seemed to me that, in this particular case, there was something unusual developed in the posterior area of the pancreas, and that this caused continuous interference with the current in the inferior mesenteric vein with the resultant varicosity. I merely mentioned the vermiform appendix as a route for the irrigation of the colon, as I had been impressed that Dr. Weir had advocated it as a kind of surgical joke. In the discussions of the surgical section of the New York Academy of Medicine, it will be noted that one or two surgeons have advocated this appendix route and have reported satisfactory results. One of these gentlemen stated that by dilatation one could succeed in getting the appendix to carry a No. 10 F. catheter. Everyone knows that such a caliber is too small for flushing purposes. When you want to flush out a cavity you must have a current and, therefore, I think a 30 F. catheter or 40 F. catheter none too large. You can remove the catheter, introducing it only when the bowel is to be irrigated. If the operation has been well done there will be no leakage.

CONGENITAL DISLOCATIONS OF THE RADIUS.*

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DENVER.

History.—In November, 1902, X. Z., a boy of 13 years, was brought to my office. Three days after his birth disability and deformity were noticed at the left elbow and in the left hand. In early life the general use of the limb was practically the same as at present. As years have gone by the limb has become neither more nor less useful.

Examination.—The left upper extremity is materially shorter than its fellow. The left forearm is in extreme pronation; it can be supinated but very little, the lower end of the radius moving but slightly on the ulna. As the limb hangs by the side the back of the hand looks forward and inward. If the boy is asked to flex the elbow he does it by abducting the arm to 45 degrees and throwing it forcibly forward. With the hand on the abdomen and chest he can then flex the elbow to 90 degrees, but not further. Flexion of the fingers is fairly good; extension is weak and imperfect. The thumb is flexed and adducted in the palm of the extended hand, being rotated somewhat out. Flexion of the fingers is made over this palmar-flexed thumb. When offered a coin the boy lifts the arm, rotates it in and throws the palm of the hand inward, then outward and forward to receive it. He makes no ordinary gestures in attempting to receive proffered articles. He uses the affected hand but little.

The elongated left radius is dislocated upward, forward and outward, lying on the outer and anterior aspect of the humerus. The condition is shown in the accompanying *x*-ray picture and in the photographs. Measurements are as follows:

Circumference of the right arm at its middle, 7½ in.; of the left arm at its middle, 6½ in. Circumference of the right forearm 2½ inches below the elbow is 7½ in.; at the same point on the opposite side it is 6 in. The right upper extremity from the tip of the acromion to the tip of the middle finger is 25 in. long; on the left or affected side it is 20½ in. long. With the elbow flexed the right arm measures 11½ in. from the tip of the acromion to the olecranon, on the opposite side it measures 10½ in. The right ulna is 8¼ in. long, the left ulna has a length of 6¾ in. The cup-shaped upper surface of the radial head is plainly felt, some 1⅛ in. above its normal. It can be satisfactorily palpated. It seems to be of normal size. It rests anteriorly on the external humeral ridge. The bones below seem to be normal in shape. Innervation of the extremity is good.

The boy is otherwise normal; his mental condition is excellent. His general appearance is that of boys of his age.

The boy was brought with a view to determining whether he would be apt to be helped by an operation. At first thought I felt that resection of the upper end of the radius would permit freer motion. However, on considering that the condition was due to defective construction, that the entire limb was imperfect and that the hand was deformed as well as the elbow, it seemed probable that any operative procedure would be tentative. The parents declined operation unless given a fairly positive assurance.

So few cases of this affection have been observed and reported that one is destitute of data on which to form an opinion as to the value of operation. Thus, while various observers have noted the pathologic condition postmortem or have described the symptoms in living cases, I am unable to find but three instances in which recourse was had to operation. (*Vide infra* for question as to the authenticity of the second of these.)

Langenbeck in 1865 made a simple resection of the entire left elbow of a 6-year-old patient of Mitscherlich.[19] No result was observed, as the child died some weeks after operation.

Bessel-Hagen[20] made a simple resection of the head of the radius with the best result.

He found the form of the radial head altered, almost spherical and smooth. The cartilaginous covering had disappeared in many places. The dislocated and badly deformed annular ligament covered the most external end of the bone like a distorted cap, partly bound to it by fibrous strings. Bessel-Hagen did not anticipate a successful result, and resorted to operation only after much persuasion. But happily after the operation the formerly half-flexed arm could be stretched out perfectly. Through methodical, energetic movements full supination was soon possible. Over a year after the operation the girl could perfectly stretch and bend and supinate and pronate the arm. The bones slid easily and

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

smoothly on each other, the sensitiveness had disappeared and strength for work was increased.

Bonnenberg[25] reports a case referred to him by Hoffa. I cite this at length as it is fully described by the author. The result is seen to be one of but moderate improvement. Further, the type of the affection approaches that observed by me.

The patient was a girl of 20 years. The right radius was dislocated forward. The right arm appeared shorter and weaker than the left, especially in the forearm. The forearm was in position of supination, the hand being dorsally flexed. While the radius approached the normal, the ulna was twisted in its lower part and in the upper and middle thirds was more convex than normal. The elbow joint could only be extended to an angle of 155 degrees. In the extended position was clearly felt the epicond. internus humeri, the point of the olecranon and the epicond. externus humeri. If the arm was flexed

Figure 1.

the head of the radius glided up on the anterior surface of the humerus. Pronation of the hand was not possible. The patient had worn apparatus which held the head of the radius firm, but its weight and pressure were annoying, and since an improvement through its use could be looked for only after a very long time the patient preferred operation, which was performed by Bonnenberg and Hoffa.

An incision about 6 cm. long was made on the outside of the elbow joint over the external condyle of the humerus, parallel with the long axis of the arm. The joint capsule was opened. The entire outer half of the lower end of the humerus was slightly concave, so that no clear limit existed between the eminentia capitata and the part of the epiphysis not covered with cartilage. The cartilaginous covering of the eminentia capitata reached about 2 cm. higher than normal. The outer edge of the lower end of the humerus appeared much thinned. In the curved lower part of the humerus the head of the radius lay over the eminentia capitata. It was completely covered with a fibrous capsule which was attached about the neck and was connected with the outer part of the joint. The capsule was split over the head, and after the periosteum was loosened a piece of the radius about 3 cm. in length was taken off, the cut surface smoothed and the radius passed under the eminentia capitata of the humerus. The capsule which covered the head of the radius was taken away. Flexion and extension of the elbow joint were now entirely unhindered. Not so, however, with pronation and supination. Therefore an incision about 4 cm. long was made over the styloid process of the ulna and after loosening up the periosteum a piece about 3.5 cm. long was taken from the lower end of this bone. Then pronation and supination were possible. Healing by granulation took place in about a month, when movements were begun. The arm was massaged daily. Electrical treatment. A little later, since there was still present the spiral twisting of the radius, osteotomy was performed between the middle

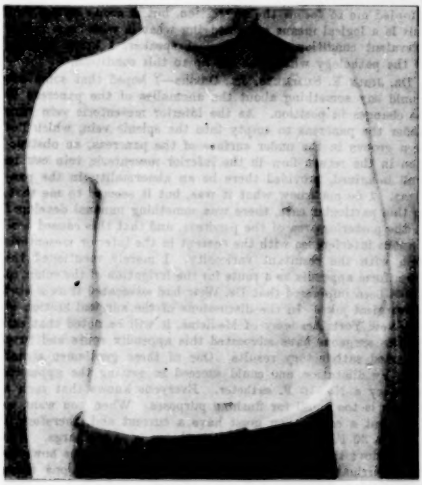

Figure 2.

and lower thirds. Again healing by granulation. When this was complete systematic attention to movement was given. At the end of a few months the condition was as follows:

The radius ends over the external condyle of the elbow; there is decided weakness of the right arm as compared with the left. Measurements: Right middle upper arm, 22 cm.; left middle upper arm, 26.5 cm.; thickest part of forearm, right, 20 cm.; left, 23 cm.

Voluntary pronation and supination are not possible on the affected side. The case may be said to be moderately improved. The piece that was taken from the upper end of the radius was 3 cm. long; the diameter at the head, 15 mm.; at the neck, 13 mm. Demarcation between the two was scarcely present. The head was defectively developed; it was infantile; it was lacking in cartilaginous covering except at a place on its posterior circumference about 1 cm. in diameter. Here the head of the radius glided over the anterior surface of the

humerus. A characteristic glenoid cavity was not present. Good pictures show the condition before and after operation.

Bonnenberg[23] collected 30 cases in 1893; of these 12 were double, 18 were single. Since that time the only observers of whom I can find record are Ambard,[23] Abbott[21] and Bergtold.[19] Ambard reported a double luxation in a man of 28 years who applied for treatment for excoriations of the external aspect of each elbow. Two very prominent protuberances on the outer part of each elbow were noted, which were brought into action by the different movements of the forearm. On looking at the posterior surface all of the middle and internal part appeared normal. But at the external view there was a prominence rounded over its lateral surface, flattened at its superior extremity. From in front the region of the elbow appeared normal. On palpation this bony

Figure 3.

prominence could only be considered as the upper extremity of the radius itself. In supination and pronation the radial cup could be rolled between the fingers; in flexion or extension it was lowered or raised. In spite of the abnormal situation the superior extremity of the radius was strongly connected with the other bones of the joint. All of the ordinary movements of the elbow, as well as the muscular force, were perfectly preserved. The length of each radius was 1 cm. more than that of the ulna, whereas normally the radius is 0.75 cm. shorter than the ulna. The ulna and humerus were normal. The two dislocations were absolutely symmetrical. The rest of the skeleton was normal, save that the two clavicles were prominent at the middle part. The nose was sunken in on account of caries of its bones and atrophy of the inferior turbinate; there were various ocular lesions pointing to hereditary syphilis.

The dislocations of the radii were noticed soon after birth. There was no family history of the trouble. The writer is inclined to think this patient a hereditary syphilitic, and thinks it possible (?) that the deformity was due to this trouble. Excellent radiographs are given.

Bergtold[19] gives an admirable account of a similar case, except that while flexion and extension were perfectly preserved the forearms were in extreme and fixed pronation. Abbott[22] reports on 9 cases, 7 of which occurred in one family, the cases having been scattered over four generations; 5 of the cases belonging to three generations had been examined personally by him, and all presented dislocation of the radius forward in one or both arms. Flexion and extension in all were free, but there was no movement of pronation or supination. In all the cases the deformity had caused the patient much inconvenience; no member of the family was the subject of any other deformity. Dissections of the elbows of the youngest of these cases were shown by Abbott at a meeting of the London Pathological Society, the chief abnormality in one being a large protuberance from the outer side of the coronoid process, fixed to the neck of the radius and possessing an extra center of ossification. The dissected elbows of a child of two months were shown. On the right side there was a dislocation of both bones directly backward, the articular end of the

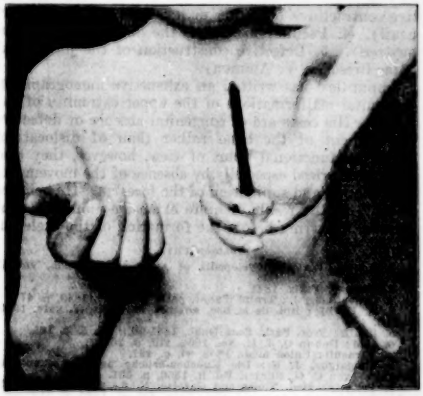

Fig. 4.—Showing the position of the limb when the patient attempts to receive a proffered object.

humerus being deeply cleft and much altered in shape. On the left side the radius was dislocated backward, upward and inward, still keeping its normal relation to the ulna which articulated with a mass of cartilage attached to the lower part of the shaft of the humerus, representing the trochlea and internal condyle, the lower end of the humerus consisting only of external condyle and capitellum. In this case the prime trouble was evidently in the humerus. A living example of congenital dislocation of the left radius backward and outward in a girl of 21 years was also shown. The president of the society, Sir George Humphrey, thought that in all cases the displacement was slight, and that all seemed to be due to want of proper condition of the orbicular ligament. (There is a similar case in the Cambridge Museum in which both humerus and radius are deformed, the neck of the latter being longer than it should be, thus causing difficulty in flexing the forearm.)

In a further discussion of these cases Abbott says that in all the deformity was first noticed when the child began to use its hands, and in no member of the family was any other deformity present. This tendency has twice been transmitted by males, twice by females, while in only one instance has the person transmitting it been herself the subject of the lesion. In one case it has occurred in the third generation, both father and grandfather transmitting the tendency without being affected, and the affection of the grandfather's brother pointing to the deformity having existed one generation earlier still. Abbott states that among cases of congenital dislocation of the radius that have been previously described he has been able to find but one in which the deformity was hereditary. This was the case of Pye-Smith.[16]

It is plain that only those cases can be accepted which (*a*) have been observed by a physician directly after birth, or (*b*) which are hereditary, or (*c*) which coexist with other deformities. If this test be applied it throws out such cases as that of Bessel-Hagen.

Herskovits[18] deduces as hypotheses to explain these luxations: 1. External injuries to the belly of the mother (Cruveilhier) or muscular activity of the fetus (Chaussier). 2. Disease of the capsule or the ligaments (Sedillot), hydrops or fungus (Parise, V. Ammon). 3. Disease in the central nervous system, with consecutive contractures (Guerin) or muscular paralysis (Verneuil). 4. Peculiar fixation of the limbs *in utero* (Dupuytren). 5. Defective construction of the joint (Paletta, Breschet, V. Ammon).

Appraillé[24] has written an exhaustive monograph on congenital malformations of the upper extremity of the radius. His cases are of congenital absence or defective development of the bone rather than of dislocation. From the functional point of view, however, they also are characterized especially by absence of the movements of pronation and supination of the forearm. He believes them to be the result of quite extensive amniotic compression occurring before the formation of the skeleton.

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DISCUSSION.

DR. JOHN T. BOTTOMLEY, Boston—My personal experience with congenital deformities of the radius has been absolutely *nil*. I have here two reports of cases from Dr. F. J. Cotton of the out-patient department of the Boston City Hospital, which I will read. The luxations were similar, though not congenital:

CASE 1.—*Syphilis of the elbow, congenital.*—M. R., aged 15, doubtful specific history. Three years ago trouble in the left elbow. She was first seen two years ago, at which time there was backward luxation of the radius, bony cartilaginous masses at the lower end of humerus, the radial head and the ulna. There was much loss of motion, especially of supination, of which there was none. There was not much pain and no spasm. Operation refused. She was treated with potassium iodid for two or three months and then lost sight of. About a month ago she was looked up, and I found the motion slightly improved, but the masses are unchanged.

CASE 2.—B. H., aged 17. For two years she has had trouble with the elbow, which has not been painful, but has caused much limitation of motion. Congenital specific history. At the present time is under treatment for iritis. Her condition was almost exactly like Case 1, but with dislocation of the radii at both elbows. She was operated on in December last, at which time there was excision of the heads of both radii with transplantation of the distorted orbicular ligament to original site. Early mobilization followed, and she was treated with potassium iodid. Ether was administered once in order to free adhesions. Excellent results followed, and all motions are now practically normal on one side; much improved and still improving on the other side, but supination is not free. Both cases were what is described as false tumor albus. The radial luxation results from the thrust of the raw cartilaginous formation. There is no synovial disease.

DR. FRED. B. LUND, Boston—I have seen the cases reported by Dr. Cotton, and the result he has obtained in one arm is certainly remarkable. The motion is not perfect, but it is a material improvement, and it is certainly a revelation to see what that operation has done.

DR. DE FOREST WILLARD, Philadelphia—I have seen two or three cases of congenital dislocation of the head of the radius and a number of cases where there have been various congenital defects of this region. When the humerus or the radius are affected the hand is usually carried in the position of extreme pronation. I do not think that any law can be laid down in regard to operation in these cases; every case must be studied according to the conditions presented, and from the standpoint of the type of distortion. In a case presenting the symptoms described by Dr. Powers, the chances are decidedly in favor of a gain by excision of the radius, together with section of the muscles to relieve the extreme pronation. In congenital and birth palsies from injury of the brachial plexus we nearly always have this same pronation. It may be relieved by cutting off the flexor and pronator muscles from their attachment to the humerus and ulna. The arm can subsequently be used 5, 10 or 15 per cent. better, while the improvement in the appearance is 30 to 40 per cent.

DR. CHARLES A. POWERS, Denver—One's first thought in such a case as this would be to take out the head of the radius. The parents refused to have this done unless given positive assurance that definite benefit would result. In view of the associated conditions and after a careful study of the literature on the subject I did not feel that I could give them this assurance. I believe that Willard's suggestion of dividing the internal rotators of the humerus to be a very useful one. I should be obliged to carefully study the histories of the cases cited by Dr. Bottomley before being certain that they were analogous to the one which I present.

Reasons for Joining the Medical Association.—To be identified with the county, state and national organizations, just as every patriotic citizen exercises his rights of suffrage in local, state and national affairs. To assist in raising the political and social standing of the profession to a higher plane. To show interest in all matters medical which should demand the attention of any legislative body. To assist in demonstrating that the medical profession is not less noble to-day than hitherto; that its members have not grown so "commercial" as to consider their skill as simply a "stock-in-trade" for sale to the highest bidder, but that love and sympathy for the human race are the prime instigators of their every action. To assist in unifying the opinions of the best professional conduct, and in supporting such a code of ethics that the members may not be constantly harassed by temptations and uncertainties as how to proceed.—*N. Y. State Jour. of Med.*

NECESSITY FOR MORE CARE IN THE TREATMENT OF SKULL FRACTURES.*

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The substance of this paper is based on the following propositions:

1. Fractures of the skull are not always recognized as such until too late to receive proper treatment.

2. Fractures of the skull when not properly treated at or about the time of fracture, occasionally result in death, and if not in death in serious remote consequences.

3. Fractures of the skull, when properly treated, usually terminate satisfactorily.

Every practitioner is aware that a large number of skull depressions, with their usual concomitants, are constantly forcing themselves on our attention. It is, we believe, right to assume that surgeons are familiar with the mischief that such depressions create, and would not knowingly allow them to remain were they recognized at the time of injury. As no special reasons exist for these omissions, we are forced to the conclusion that carelessness at the time of the first examination is responsible for the errors in diagnosis and their consequent evil effects.

The conclusions of Hippocrates—sometimes credited to Sir Astley Cooper—that "No injury to the head is too slight to be despised, nor too severe to be despaired of"—were never clearer than to-day, and still many of us fail in appreciating their significance, or if appreciating, fail to profit by them.

An apparently insignificant scalp wound may be associated with a serious fracture beneath, and even a contusion of the scalp may cover a fracture, with depression and accompanying laceration of brain tissue and coverings. The scalp wounds may be ever so carefully dressed and the subsequent healing be ever so perfect, but unless our range of inquiry is sufficiently comprehensive to take in all possibilities, deeper injuries may remain, to be followed by headache, epilepsy, or even insanity. Usually these cases do not present themselves for examination until the evil effects of injury are fully established and little can be done for their relief.

Roberts tells us in his "Fractures of the Cranium" that their importance and interest center not in the damage done to the bone, but in the associated injuries sustained by the brain and its membranes. He also tells us that the inner table is nearly always more extensively broken than the outer. Keen says that "fractures of the inner table alone can only be suspected." Starr (Brain Surgery, p. 27) reports two cases operated on by McBurney, of which he says: "The pressure of splinters of bone cracked off from the inner table of the skull and imbedded in the brain in the motor area, for the arm with cysts at the same place was demonstrated." Da Costa warns us by writing: "The prognosis of fractures of the vault depends on the extent of brain injury, rather than on the extent of bone injury."

In this connection we must not forget that any injury sufficiently violent to produce a fracture of the skull, is also sufficiently violent to produce injuries to the soft parts beneath. In support of this statement we may be pardoned for submitting the following, taken from the clinical records of the writer: From an analysis of 86 cases where injury to the skull wall existed, 68 were accompanied with probable, and 57 with positive, evidence of cerebral disturbances. These conclusions were verified in 52 cases through operation. Clinical reports of competent observers, coupled with everyday experiences, have clearly demonstrated that blows or falls on the head may cause serious trouble, both present and prospective, without producing fracture to the skull wall. If this be true, how much more likelihood is there of such conditions being present when fracture exists, especially if that fracture be depressed. It is on the effects of these injuries, rather than on the injuries themselves, that we would lay emphasis, and to invite attention to the necessity of a full and correct diagnosis at or about the time of injury, in order that either condition may be properly treated. Every case of recent head injury, however trivial it may appear, should, we believe, be treated with the greatest consideration, lest damage to hidden and important structures escape our attention, thus leaving a foundation for future trouble which too often is irreparable.

What shall we do to improve existing conditions? Make a thorough examination at or about the time of injury if possible, and then rationally treat the conditions found. Open wide the scalp wound, carefully examine the bone beneath, and if this be found injured, then examine the brain. An examination of the tissues suspected of injury when cleanly and carefully made, does not expose the patient to any special dangers, while it may be of the most significant value, by determining conditions and leading to treatment that will result in the prevention of very undesirable consequences. This is a rational surgical procedure based on science and common sense. On this point Otto Schar, in the *Archives of Clinical History*, says: "Epilepsy following injury to the skull can, in the majority of cases, be avoided with almost absolute certainty if only active and proper treatment be instituted at the time of injury." Again we quote from Da Costa when he says: "Trephining cases where no symptoms exist, although there is marked depression, often prevents disastrous consequences arising in the future."

We believe that all fractures of the skull with depression should be trephined, the depressed bones elevated, and underlying soft parts carefully examined, and if found injured, repair attempted.

We believe that all fractures of the skull with or without depression when symptoms of cerebral disturbance exist, should be trephined. We believe that all skull fractures, regardless of the presence or absence of cerebral symptoms, should be carefully examined before the soft parts are closed over them.

In operation in no other part of the body does the surgeon close the wound until he has satisfied himself as well as may be, as to the conditions beneath.

Under ordinary conditions the necessary and proper treatment may be carried out. Thorough cleansing of the parts to be operated on may be secured in almost any room; the operator and assistants must be clean, as must the instruments, sponges and dressings. The scalp is raised, the underlying bone examined, and if fragments are found, they must be removed. A button of bone is then removed with the trephine and the parts beneath examined. If found necessary, the opening is to be enlarged with the chisel. If only the dura be torn, it may be united with catgut; if the brain tissue be injured, any ragged edges must be removed—the freshened edges approximated and so retained with fine sutures—all depressed bone must be elevated, when the scalp may be closed in the usual way with or

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

without gauze drainage as circumstances may seem to warrant.

Every patient to-day, of whatever condition, is entitled to intelligent treatment when injured; every surgeon should be prepared to give this treatment when called on to do so. These statements are especially true when associated with injuries to the head. We should, therefore, aim to be thorough in our work, guided by the clinical experience of the past, to the end that full justice may be done both patient and doctor.

Carelessness in the treatment of the class of cases referred to, appears to be responsible for at least much subsequent suffering, and ought to be discouraged.

Drawing on the clinical experience of the able observers quoted in this paper, as well as from the daily experiences of practitioners generally, we are forced to the conviction that not all that is possible is being accomplished in head surgery. Even were the remote consequences less deplorable than we find them, there would still be sufficient reason for reformation along these lines.

We labor night and day with commendable energy, and write volumes on conditions of the appendix; the midnight lamp finds us devising contrivances for the repair of the intestines; the gall bladder and its ducts command our closest attention—then why make the skull, the storehouse of the most important organ in the body, a matter of secondary consideration?

We all know that any impairment of the brain seriously affects the entire economy. We should also know how when possible to prevent this impairment, for here, as nowhere else, do we recognize the force of the adage, "Prevention is better than cure."

There are a greater number of heads than appendices. By virtue of their exposed anatomic positions they are more frequently in need of repair than are the intestines. When seriously injured, they expose the patient to greater dangers than do gallstones.

Why not give them that consideration their importance entitles them to?

DISCUSSION.

DR. J. GARLAND SHERRILL, Louisville—This subject is one of great importance to all men who are doing surgery, especially cranial surgery, and I believe that many cases of this class are not treated properly as mentioned by the speaker. This occurs for many reasons, and a very important one is, that the diagnosis is not made, and we can only say that diagnosis of fracture with trouble within the cranium is not always easily made. I believe that the old classification of symptoms is largely responsible for this condition. It is possible to have grave lesions of the brain with but slight symptoms, and sometimes with extensive damage to the brain the patient will be able to be up and about, the symptoms coming later. If we have the symptoms of compression of the brain, then we have a demand for an operation, but there is no less a demand for operative procedure where the symptoms indicate what has been formally known as concussion of the brain. I believe when you make a diagnosis of concussion of the brain you should always make a thorough examination of the shaven scalp. Localized pain on pressure is of the greatest importance in making your diagnosis. In connection with this symptom the use of the percussion hammer or your finger will often elicit a crack in the skull, which you would not otherwise be able to discover. In connection with these symptoms you should watch the pulse, respiration and pupillary reaction; these are quite important. In these cases the temperature rises as the blood flows at the base of the brain and the pupil becomes dilated and fixed.

In concussion of the brain you often meet another symptom, a rapid irritable pulse, while the pupil is not fixed and dilated as in compression of the brain. Taking these things into consideration a diagnosis of trouble within the skull can be made, and when this fact has been established I believe that most of the fractures of the skull should be investigated, except those very serious fractures of the base of the skull where there is very little hope for relief, but I believe that the field for operative procedure will be widened, even in these cases. All depressed fractures of the skull and all compound fractures should be trephined, and even linear fractures, especially when brain symptoms are present.

DR. CARL WAGNER, Chicago—In connection with Dr. Earles' very suggestive paper I would like to report two cases which tend to illustrate the imperative necessity of operating on all cases of depressed fracture of the skull. Of these two, the first one represents the one extreme, where the injury appears to be so slight that it hardly seems worthy of attention, or even escapes notice, while the second typifies the other extreme in which the case is seemingly utterly hopeless and beyond human aid.

In the first case the mother called me on account of an eruption of the skin, which she took for scarlet fever. The skin eruption did not resemble that of scarlet fever or measles, neither were any throat symptoms present. Temperature 102. The child had had several attacks of convulsions, and on being put on the floor described semi-circles to the right and then fell, insteading of walking in a straight line. This attracted my attention to the brain, and examination of the head I found a sensitive little spot and a small crust covering a slight abrasion of the scalp.

The mother then seemed to remember that the child had fallen against the sharp edge of the leg of the bed about two weeks previously. The child had not complained at all at that time. On operating, a stellate fracture with depression of the bone and pus between bone and scalp, as well as oozing through between the bone splinters from underneath, was disclosed. Another abscess was found directly under the dura mater, containing about a half-teaspoonful of pus. Immediately after the operation the temperature became normal and the child recovered quickly. This case was presented to the North Chicago Medical Society three years after the operation, where I could show that the whole defect of the bone had been closed up by new osseus tissue.

The second case, a boy of 7, fell from the third story on a stone pavement, head first. Dr. Williams and Dr. H. Wagner, who had been attending the boy during the two hours since the accident, informed me that the child had been lying absolutely motionless, with knees and arms flexed, with stertorous Cheyne-Stokes respiration, during the entire time, almost pulseless, the pupils dilated and fixed and did not respond to the effect of light. There was a profuse hemorrhage from the right ear, both nostrils and mouth. On top of the right side of the head near the frontal region of the skull a deep depression large enough to admit three fingers could be seen.

I made an extensive Lannelongue incision, without anesthetic. The injured field was exposed. The anterior and posterior branches of middle meningeal arteries were tied, the ruptured longitudinal sinus tamponed, the lateral sinus on the right side blocked with gauze. The bony defect was very nearly as large as the palm of the hand. A bi-parietal fracture, which had torn the longitudinal sinus, extended through the temporal bone, which was afterwards verified by the examination of the ear, where Dr. Gradle found a scar in the drum and bone. The boy left the hospital fourteen days after in good health and has been for the last seven years a good, bright scholar in school.

DR. T. J. SULLIVAN, Chicago—Cases of fracture of the skull may be divided into two classes: simple and compound. The simple cases are cases to be placed under observation, and when the conditions warrant interference by surgical intervention. The compound fractures, of course, should always receive all the relief that is afforded by modern surgery, and the wound should be dressed with a primary antiseptic dressing at the time of the traumatism, so that when the patient is received by the surgeon the case from the time of the injury to the time of the operation is controlled by primary antiseptic dressing. The best antiseptic is bichlorid of mercury, in a strength

of 1 to 1000. All the compound fractures certainly require surgical intervention. In these cases the operation should be proceeded with with all surgical precaution in the way of elevating the fracture and restoring the condition of the patient. In cases where the meningeal vessels are torn, and where it is very difficult to do the operation without hemorrhages, we can safely place a quantity of the normal salt solution within the dura. In some of those cases we have very severe hemorrhage from the meningeal arteries, and good may be derived from the little device referred to. The Mosaic may be secured to the dura by careful adjustment with a very fine through-and-through catgut suture. In this way we can control the hemorrhage, and after about forty-eight hours we can reduce the Mosaic and insert packing, which may be done at once in those cases, where hemorrhage is not an important factor. In that way we provide against the danger of adhesions of the dura and the scalp. Later in those cases in which that procedure has not been carried out and we have adhesions between the dura and the scalp, we have a very beautiful little procedure that we can resort to. By making a large flap and dissecting it off carefully and then by running the chisel in between the parts, we can keep the dura separated from the scalp and provide against adhesions. Of course, five minutes is too short a time to systematically dissect these parts. It seems to me that all classes of injury to the skull can be divided into two classes, simple and compound, and all cases of simple fracture should be kept under observation and surgical interference undertaken as soon as the motor symptoms are noticed. The compound fractures demand immediate operation under the most thorough aseptic methods. When sepsis does occur, a median incision should be made in the skull and drainage provided. At least in one instance of compound fracture of the skull, which had gone over for eighteen months after the time of the injury, it was possible to save the patient by those great multiple incisions. In this case the temperature had run up very high, the patient had had convulsions, but was relieved by this operation.

DR. B. B. DAVIS, Omaha, Neb.—When I see a case of head injury I always try to keep this point in mind. It does not matter how much the fracture or how small the fracture is, or how much injury there is to the membrane or to the bone, the point that we are concerned with more than anything else is the extent of the injury to the brain. I have been very much surprised in some instances to see quite an extensive fracture of the bone, with practically no injury to the dura or to the brain, and, on the other hand, I have seen cases where the fracture was insignificant, and have found a great deal of injury to the dura and perhaps to the gray matter of the brain. To decide when to do an operation immediately and when not to do an operation is not always so easy, and I think we should always consider, first, is there any danger if we do not do the operation, and second, are we going to leave this patient in a bad condition if we do not do it? I think we have trephined in two or three instances unnecessarily. In some cases I have not found enough pathology to warrant the operation. The question is whether there is not enough cicatricial tissue to form dural adhesions, so that in the future that patient may have paralysis due, not to the original injury, but to the trephining. I think we should not do this operation unless it is absolutely necessary.

DR. G. S. BROWN, Birmingham, Ala.—I merely wish to report a case of injury to the middle meningeal artery with resulting paralysis. I merely report it because it is a case of very unusual occurrence, and I never heard of one being reported before. It occurred in my practice about three weeks ago. I operated on it and found a very small clot about the size of a white bean. The convulsions and paralysis and all the other symptoms disappeared two hours after the operation, and in ten days the child was up and well.

DR. CHARLES H. LEMON, Milwaukee, Wis.—In injuries to the skull, especially those caused by a fall from a height, we sometimes find serious intracranial disturbance without demonstrable hemorrhage within the cranial cavity, and I think it is the experience of those who have seen many of these cases that some cases are allowed to die under a diagnosis of concussion of the brain, which might possibly have been saved if subjected to operative procedure. There is a pathologic condition of the brain following trauma that is oftentimes overlooked. We may have, and we frequently do have, contusion of the brain itself and its membranes, and as the result of that contusion we have edema of the brain causing intracranial pressure of a fatal character which might be avoided by trephining and drainage. We are expecting in the brain a power of resorption that we do not expect in other tissues of the body. We seem to have lost sight of the fact that in the arrest of the fall, when the delicate structure of the brain is contused by its sudden sharp contact with its bony envelope, it must undergo the same pathologic process, with all its attendant inflammatory changes, that other soft tissues similarly injured undergo more favorably situated for the purpose of expansion.

There recently came under my observation the case of a man who fell forty feet, receiving a compound fracture of the right wrist with numerous contusions of the body without apparent injury to the head. Ten days after the injury he developed a partial paralysis of the right arm and right leg and became markedly comatose, the hemiplegia becoming complete on the eleventh day. On the eleventh day his temperature was 102, pulse 145 and respirations 10 per minute. Coma complete. I trephined the skull low down on the left side, opening the middle fossa. There was no extradural hemorrhage and no pulsation of the brain could be seen. The dura was incised. A contused area of the brain bulged into the wound. The center of this area was markedly ecchymotic and the surrounding cortex of the brain appeared infiltrated. A grooved director was inserted which permitted the escape of a large amount of cerebrospinal fluid, relieving the intracranial pressure, and at the end of ten minutes the brain began to pulsate vigorously. The wound was drained by strands of catgut and heavy moist dressings used to favor the relief of tension by drainage. In three days all paralysis had disappeared, the man was able to talk and the temperature dropped to 100 degrees.

I cite this case because it illustrates that in all cases of severe injury to the skull there is likely to be contusion of the brain without hemorrhage followed by inflammatory reaction which may produce fatal intracranial pressure. This may occur without demonstrable signs of injury to the head, so that in order to give these patients every possible chance for recovery the skull should be opened for the purpose of relieving tension and by providing free drainage afford the brain the greatest possible room for expansion.

DR. T. C. WITHERSPOON, St. Louis—I take it for granted that the subject under discussion is injury to the brain following fracture of the skull. There are four sources of danger: First, hemorrhage; second, laceration or more extensive pulpification; third, presence of bone or foreign body in the brain or making pressure on it; fourth, sepsis. The most dangerous form of fracture as far as infection is concerned is of the base of the skull. It is certainly bad practice to irrigate the nasal cavity, as some recommend, to aid in disinfection. The water is too often the conveyor of infection. Above all things, the air of the room should be kept moist to prevent crust formation as far as possible.

As to exploration in case of hemorrhage or laceration, I feel the dura is too often opened. Adhesions are necessarily formed at the cut in the dura, and epilepsy is a possible sequence. These cases suffer from sudden movements or jars. Two cases have come under my observation in which I was sorely tempted to open the dura initially, and time has demonstrated the wisdom of not doing so. About 14 years ago a gentleman was thrown from his horse and suffered a fracture at the base of the skull. A profound coma lasted for a while, which left, on clearing, a distinct hemianopsia. At this time I favored exploration, but he fell to the care of another surgeon and I lost sight of him. Six months ago he returned to me, asking that I explore his brain to find out why he still had the hemianopsia. I advised against this, stating it was too late to accomplish anything regardless of the primary cause. In a short time he

returned with a statement made out by his attorney to the effect that I would be in no way responsible for the outcome in case I operated. With him he brought some friends to urge this on me. On opening the skull we found absolutely nothing in the area of the cuneus. Evidently the original injury was a laceration deep in the basilar area.

The second case was that of a man with fractured skull due to a rock falling on his head from a height. The cutaneous wound was small, but the fracture involved the major portion of the left side of the skull. There was no paralysis, but complete aphasia; neither could he write. His understanding of written language was questionable, likewise that which he heard. The bone just above the commencement of the Sylvian fissure was most depressed. This was removed. The remaining area on the side of the head was left intact after adjusting the fragments of attached bone as best I could. A primary healing followed, and at present he can speak well enough to get about and ask for necessities. The distinct localization made it tempting to explore further in each case, but I am sure it would have been more harmful than beneficial.

DR. W. H. EARLES, Milwaukee, Wis., closing—This paper has been read in the hope that it may stimulate a more thorough application of the knowledge we have on this subject. The point that I especially wish to emphasize is that we do not exercise that amount of care and judgment that we should in these cases. Nowhere else in our operative work are we so tempted to hurry up the operation without satisfying ourselves as to the exact conditions present.

A few years ago I was called to treat a man who was suffering from epilepsy. He gave a history of good health until one year prior to the time that I saw him, when he fractured his skull in jumping from a fourth-story window. He told me that he had a silver plate in his skull. I did not credit the silver plate part of the history, and did an operation on the injured side of the head, when I found this plate (showing plate). His epilepsy, however, continued. I was satisfied that there was some condition present closely associated with his fits, and, after waiting two weeks, I had his head again shaved. On making the second examination I found on the opposite side of the head from that operated on, a very small scar and beneath it a depressed fracture. The scar was so small as to have escaped my attention at the time of the first operation, and the original wound had apparently been so insignificant as to have escaped the notice of the operator at the time of the primary operation. He had seen the injury on one side and performed an operation for its repair, but the injury on the other side being insignificant in appearance, did not receive apparently the attention it deserved. After the second operation the epileptic seizures discontinued, and did not reappear as long as the man was under my observation—about six months. I do not know what the final results were.

I cite this case to show the necessity of great care in examining the class of injuries referred to. I think if we will exercise what knowledge we have, and be more careful in our primary examination of the patients, we will have fewer cases of traumatic epilepsy.

Intoxication with Croton Oil.—The *Bulletin of the Societe de Pharmacie* of Bordeaux gives the details of a criminal case in which a wife killed her husband by adding two or three drops of croton oil twice daily to his food, for five months, with rare exceptions. The symptoms induced were a smarting and burning in the throat and stomach, violent vomiting after meals, daily repeated copious alvine discharges, with intense colicky pains for hours, and death at last in extreme emaciation. The medical experts were unable to detect the croton oil by any know test in the cadaver, even after the wife had confessed, but Barthe was able to identify it in spots on a cloth with which the bottle had been wiped. He also emphasizes the siccative properties of croton oil. The stomach and small intestine showed a number of superficial erosions and hemorrhagic dots, the organs much congested. No characteristic lesions were noted in the large intestine or other organs; the kidney and liver were apparently normal, as also the brain, etc.

CLINICAL DIAGNOSIS OF INTESTINAL PARASITES.*

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In diagnosing intestinal parasites, we may use various methods, but the best method is undoubtedly that of a microscopic examination of the feces.

DIAGNOSIS BY SYMPTOMS.

The practitioner who relies on symptoms alone for his diagnosis will undoubtedly often successfully recognize the true nature of the trouble, especially in severe infections. For instance, when we are in the infected area of hookworm disease and meet a typical clay-eater we note a complex of symptoms which is quite characteristic, and in most cases of this kind a microscopic examination seems unnecessary. In numerous medium cases and in practically all light cases of this disease, however, a diagnosis on symptoms alone is uncertain unless we find severe cases, such as clay-eaters, in the same family. Outside of the infected area, probably few physicians would care to risk a definite diagnosis of this disease on symptoms alone even in the severe cases, while in medium and light cases it would be almost folly to do so.

BLOOD COUNTS.

Blood examination has become almost a matter of routine in the better hospitals and also in the private practice of many physicians, and in all such examinations we should bear in mind the important fact that an increased eosinophilia is an indication of possible infection with animal parasites. Hence, when an increased eosinophilia is noticed, we should immediately make a microscopic examination of the feces for eggs or embryos of parasites, and if these are not found we should consider the possibility of trichinosis, especially in obscure typhoid-like cases.

GROSS EXAMINATION OF THE FECES.

Physicians in general appreciate the importance of a gross examination of the feces of infants, but less attention is given to an examination of the stools of adults.

In some cases a gross examination of the stool will reveal segments of a tapeworm, or in some cases of nematode infection the adult worms may be found. This, it seems, is more likely to occur after a patient has taken calomel or a small dose of some anthelmintic or after food has been withheld for twenty-four to forty-eight hours. In the first stage of trichinosis, especially where the diarrhea is severe, as in children, the adult trichinæ may sometimes be found. In hunting for these trichinæ the stools should be diluted with warm water and examined in a flat glass dish held over a black background.

The color of the stools is occasionally suggestive in case of infection with blood-sucking parasites, such as hookworms. The hookworm stool (such as usually seen in very severe cases) is reddish brown in color.

BLOTTING PAPER TEST.

In hookworm infections a very simple test may be made with blotting paper or even with an ordinary newspaper. Several ounces of the stool should be wrapped up in paper and allowed to stand for a few hours. In severe cases and in many median cases it will be noticed

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank A. Jones and W. S. Thayer.

that a distinct reddish-brown stain is formed on the paper. In this test, however, there is an error of 30 per cent. or more.

Odor and Litmus Test.—While the odor of feces from parasitic infections is sometimes offensive, I have not been able to discover anything sufficiently characteristic about it to attract special attention. The litmus paper test is of no value, so far as my observations go.

MICROSCOPIC EXAMINATION OF FECES.

I believe that a routine microscopic examination of feces should be made in all hospital cases and also in all private cases so far as practical. The results which the Zoological Division of the Hygienic Laboratory has recently obtained in examining the patients at the Government Hospital for the Insane amply demonstrated the value of such work, for we found that 3 per cent. of the first 500 cases examined showed hookworm infection.

There seems to be an impression that fecal examination involves very disagreeable work. While it must be admitted that some stools are offensive, I would personally much prefer to make a feces examination than a sputum examination, for in working with feces one is much less likely to experience that nauseating sensation so commonly resulting from an examination of sputa.

TECHNIC.

The technic involved is exceedingly simple, since it is not necessary to stain the preparation. A portion of the feces, say 1 to 5 grams, is taken from the stool, wrapped up in a piece of paper and taken to the laboratory. Or, if it is desired to test for protozoa as well as for worms, it is better to place the specimen in a bottle so that the material will not dry. To avoid errors in interpretation it is well to make the examination as promptly as possible, although an experienced operator may examine the specimen even if it is a week or so old. In examining old specimens, however, it must be recalled that the older the specimen the more likely one is to fail to recognize protozoan infections.

An elaborate series of instruments may be used in preparing the slides if desired, or, if instruments are not at hand, a match will suffice.

For slides I prefer the large 2 by 3-inch, such as are used for large sections or for trichina inspection, rather than the 1 by 3-inch slide generally used in bacteriologic work. These larger slides are much more easily handled than are the smaller sizes. Having thoroughly cleaned the slide in order to remove any eggs which may have clung to it from some former examination, a drop of water is placed on it; next take a minute portion of feces on the end of a match or a glass rod and thoroughly mix it with the water so that the resulting mixture is not too thick; add more water if necessary. Next cover the mixture with a cover glass (square cover glass preferred) and the preparation is ready for examination. As many as two to four cover glasses may be conveniently placed on one slide and at least ten cover-glass preparations should be examined before a negative opinion is given.

In the work several very simple precautions are to be observed, namely, the specimen and the preparations are to be kept protected from flies, the hands are to be immediately cleaned if accidentally soiled with the feces, especially if nothing is known regarding the condition of the patient, and all glassware is to be thoroughly cleaned (hot water or hot water and soap). In case of the presence of *Tænia solium* in man, double precautions are to be observed, as the egg is infectious for man. In case of examining feces from dogs, the possibility of the presence of *Tænia echinococcus* and its transmissibility to man should be held in mind.

The biologic principle on which fecal examination rests is that the eggs of different animals are more or less characteristic. Accordingly, to properly carry out the examination one must become familiar with the eggs and embryos of different species, also with the form of certain plant cells and fibers which might be mistaken by the uninitiated for eggs or embryos of parasitic worms.

Not every egg found in the feces indicates an infection of the intestinal tract. In the case of infection with liverflukes, for instance, the eggs are discharged in the stools, and some of these forms resemble more or less closely the eggs of certain intestinal parasites. In lungfluke infection the eggs of *Paragonimus* may be found both in the sputum and in the feces. In bloodfluke infection the eggs of *Schistosoma* may be found both in the feces and in the urine. In certain cases, therefore, it is necessary to examine either the sputum or the urine in addition to the examination of the feces.

For illustrations of the eggs most commonly found, I refer you to any work on clinical diagnosis or to Bulletin 10, Hygienic Laboratory, U. S. Public Health and Marine-Hospital Service.

A CONTRIBUTION TO THE STUDY OF THE SUMMER DIARRHEAS OF INFANCY.*

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It is with great hesitancy that any attempt is made in this paper to enter a field that has been so thoroughly investigated during recent years as that embraced in the title of "The Summer Diarrheas of Infancy." The zeal with which these intestinal disorders of children have been studied lately is in direct ratio with their neglect by early medical writers. Although, as Dr. Booker[1] has shown, there are occasional references among the ancients to diarrheal troubles in infants in the summer months, there is no clear history of these diseases prior to their appearance among the colonists in this country. As he suggests, the importance of human life in this newly-settled land may have called sharp attention to a malady which was each summer carrying away the children of the settlers in large numbers. The malady, called the "dread of parents and the opprobrium of physicians," was thought at first peculiar to America. The yearly outbreaks in the larger towns scattered along the Atlantic coast were recognized and described under various names by local physicians, but the first adequate description of these maladies seems to have been made in 1773 by Dr. Benjamin Rush.

Knowledge of these disorders spread gradually in this country and in Europe, and it was not until the early part of the last century that their great importance was recognized. As is the case with other diseases, the clinical descriptions of many of these early observers leave but little to be added by their successors. They ascribed the causes of the disorders to various conditions, some of which will pass muster to-day, to the character of the atmosphere, cold, moist or hot, to direful miasms, to overcrowding, to improper food, to teething, to faulty

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank A. Jones and W. S. Thayer.

action of the liver, and so on. They recognized the epidemic character of the disease and the lines of treatment adopted were in the main those now followed. Food was restricted, prompt purgation resorted to, opium was used in moderation, and the advantage of removing the little patients from crowded districts to the country was recognized. With the advent of the science of bacteriology, new zest has been added to the study of these complaints. Then, for the first time, there seemed possible a rational explanation of the infectious nature of the affection. The intestinal tract of the healthy infant was found to swarm with bacteria of many varieties.

It would be needless to even mention the host of workers in this field, or the names of the numerous bacterial forms isolated. Perhaps the most authoritative work on the subject has been done by Escherich of Vienna, formerly of Gratz, who noted the predominance of *B. lactis aerogenes* in the upper bowel of the infant, and of *B. coli communis* in the large intestine, during health. In diseased conditions the differences between the flora in the upper and lower bowels are less marked. In addition to other varieties found in the intestinal tract, including the interesting *B. acidofilus* of Moro and Finkelstein, several forms known to be pathogenic for man have been isolated from the stools of infants suffering from diarrhea. Thus, among others, the pathogenic cocci, *B. proteus vulgaris*, *B. pyocyaneus* and virulent forms of the colon bacillus have been described. No single pathogenic organism, however, has been found constantly in these diarrheal conditions, and the conclusions of Dr. Booker[2] perhaps voice the present position of the profession, that "No single organism is found to be the specific exciter of the summer diarrheas of infants."

Notwithstanding these comparatively negative findings, it is believed that there is clinical evidence in favor of the specific nature of these affections. The epidemic character of the disease in our crowded cities during the summer months, its occasional propagation in hospitals and asylums from patient to patient, and the nature of the illness itself, all suggest that the exciting cause of the disorder is an infectious agent not normally present in the body. The factors predisposing to this infection have long been recognized, and experience only tends to emphasize their importance. Thus the disease is much more prevalent among infants of weakened constitutions living amid unhygienic surroundings and nourished by insufficient or improper food. The high temperature during our summer months provides most favorable conditions for the rapid proliferation of bacteria in food products, especially in milk, and the large residue of undigested milk which remains in the infant's intestinal tract as a result of immoderate feeding, or of a weakened absorptive power, forms an ideal pabulum for the growth of bacteria and the formation of deleterious products. So frequently are these conditions incident to an attack of summer diarrhea that many, including Czerny of Breslau, consider improper feeding the more important factor in its production, and the infective element to be of comparatively less moment. Certain it is that the mortality in intestinal diseases of infants is directly influenced by the resistance of the patient, which is in turn dependent upon the condition of the digestive apparatus.

The effort to isolate a single organism which could be shown to be the cause of a large group of these cases of summer diarrhea, has been unsuccessful, because of the difficulty in the separation of such an organism, if present, from the great numbers of bacteria in the intestinal contents. Last summer in the laboratory of the Thomas Wilson Sanitarium,[3] assisted by a grant from the Rockefeller Institute, two investigators, C. W. Duval and V. H. Bassett, succeeded in isolating *B. dysenteriæ* (Shiga) from the stools of forty-two infants suffering with diarrhea. The importance of this finding is evident, as it brings a series of diarrheal cases in young children into relationship with an organism that is the proven exciting cause of certain varieties of severe intestinal disease in adults. It is unnecessary to do more than refer to the history of the organism. It will be remembered that it was first isolated by Shiga[4] in Japan, in 1897, from the stools of patients suffering from epidemic dysentery. In 1900 Flexner[5] discovered the same organism to be the cause of many cases of epidemic dysentery among our soldiers in the Philippines. Soon after Kruse,[6] in Germany, found the same bacillus in the dejecta of patients suffering from so-called "asylum dysentery." It has since been successfully isolated by Vetter and Duval[7] in epidemics of dysentery in this country, and has also been found in diarrheal cases in China, in Constantinople, and in several other sections of Europe.[8]

At the Thomas Wilson Sanitarium the stools of about fifty-three patients, most of them under 1 year of age, were examined bacteriologically, and from forty-two the dysentery bacillus was isolated. Early in the summer those cases were selected in which the stools contained considerable mucus and blood. These were regarded as especially "favorable," that is, that from them the organism could be obtained in largest numbers. Later the stools of twenty-five consecutive infants were carefully plated, and in nineteen instances *B. dysenteriæ* was found. All these babies exhibited some form of intestinal disorder, but the stools of many of the series were largely fecal, and in these cases the organism was present in comparatively small numbers, and was more difficult to isolate. The importance of determining the presence or absence of the bacillus in normal stools was recognized, and the discharges of twenty-five babies, ranging in age from 7 weeks to 2 years, suffering from no intestinal derangement, were subjected to painstaking examination. In none of these cases was the Shiga bacillus found.

A detailed account of the methods employed in isolating the organism will shortly appear,[9] and will be only briefly referred to here. The technic was essentially that used by Dr. Flexner in the Philippines, though several important modifications employed first by Vetter and Duval[7] in their work on adult dysentery, were of great assistance. The stool of the infant to be investigated was collected on sterile gauze and taken immediately after passage to the laboratory. Numerous plate cultures in acid agar-agar were made, choosing for plating, when possible, bloody or muco-purulent portions. After incubation for twenty-four hours, the superficial colonies were marked off and the plates again placed in the thermostat for twenty-four hours, when the new superficial colonies were carefully examined. Duval and Vetter found in their studies that the dysentery bacilli grow out on plates less rapidly than do colon organisms, and that by thus marking the plates one is enabled to select for study the colonies developing more slowly, and thus the ubiquitous colon bacillus could be avoided. The colonies which seemed morphologically favorable after this second incubation were transplanted to glucose agar and all gas-forming organisms discarded. The non-gas-forming bacilli were studied culturally on the various media, and their agglutination reaction tested with serum from the same patient, the sera from numerous other patients,

and with antidysenteric serum furnished through the kindness of Dr. Gay. This agglutinating action of the blood serum for the specific organism was a great assistance in the successful isolation, as it proved to be to Shiga and Flexner, and to all subsequent investigators. The technic of making this test with the dysentery bacillus requires more than usual skill, and thus far wider variations in the amount of agglutinin in the sera from various patients seem to pertain than is the case in typhoid fever. Our experience would indicate that in nearly all cases the serum has some definite agglutinating power for the specific organism if the two are brought together under the most favorable conditions. The serum from immunized horses in dilutions from 1-100 to 1-1,000, agglutinated the organisms isolated from all our forty-two cases, as well as various strains of the dysentery bacillus sent from abroad, while it was quite inert in low dilutions against the typhoid bacillus. Moreover, the blood of our patients agglutinated the organisms isolated at the sanitarium, as well as those obtained from cases of epidemic dysentery in Japan, the Philippines, Germany and in this country, in dilutions varying from 1-16, the least active, to 1-1,000, when cultures of typhoid or colon bacilli tested synchronously were negative. The agglutination reactions were made in drop slides and observed under the microscope. Lenz,[10] in the last few months, has advocated the macroscopic test-tube reaction as being more reliable, and since last summer this method has been used in testing many of our isolations. With some minor differences, the two methods seem to fairly correspond. It is difficult at present to explain many apparent irregularities in the agglutination reaction with the dysentery bacillus, and much further study is necessary before hard and fast lines can be drawn as to the time in which a reaction must take place to be considered positive, and also as to the minimum dilution of the serum to be allowed. These steps toward a recognized technic were gradually taken in the study of the Widal reaction with the typhoid bacillus. However, the Shiga bacillus seems to present more differences in the importance and rapidity with which the various isolations clump than does the typhoid bacillus. In no instance during the summer did normal blood agglutinate any of the dysentery bacilli.

It is too early yet to speak positively of the clinical value of the agglutination reaction. Of thirteen cases tested during the first week of illness, ten gave positive, and three negative, reactions. One case reacted on the second day. Usually, however, reaction was more marked later in the disease. In the chronic cases the blood may remain positive for weeks or months. It is in cases of this nature that the blood tests may prove useful. By this means in a number of our series presenting the symptoms of chronic intestinal disorder, a diagnosis was made on the basis of a positive blood reaction, and a dysentery bacillus afterward isolated from the stools. In several tested cases where the bacteriologic examination of the stools was not possible or convenient, a diagnosis was ventured because of an undoubted agglutinating reaction. It is hoped that when its limitations are understood this blood reaction will prove of assistance to the clinician.

The studies conducted by Duval and Bassett have resulted in establishing the fact that there was present in the intestinal tract of a large number of infants suffering from diarrheal disorders, a bacillus identical with the *B. dysenteriæ* (Shiga), hitherto associated only with the dysentery of adults. They have found also that this organism was pathogenic for animals; that it was present in largest numbers in the deeper layers of the intestine, as shown by scraping the mucosa at autopsy; and that the number of bacilli in the stools was in proportion to the acuteness and severity of the symptoms. The organisms isolated were agglutinated by antidysenteric serum and by the blood of infected patients, never by the blood of those ill with other diseases. They were unable to find the Shiga bacillus in the discharges of healthy infants. In short, the evidence presented by Shiga, Flexner and others, to establish the etiology of dysentery in adults is at hand to show that the dysentery bacillus is also the causal factor in certain diarrheal diseases among children.

It now remains to consider the clinical aspect of this series of cases in order to determine, if possible, whether they belong to an isolated group, or whether they represent in symptomatology and pathology the maladies called by the descriptive epithet, "The Summer Diarrheas of Infants."

TIME OF ADMISSION.

The 42 cases of our series were admitted to the sanitarium between June 13 and August 21 of last summer, 12 being received in June, 25 in July and 5 in August.

AGE.

The age of the little patients varied between 7 weeks and 4 years. The majority of them were under 1 year of age. They may be arranged according to age in the following periods of six months each:

Under 6 months	13
Between 6 months and 12 months	17
Between 12 months and 18 months	8
Between 18 months and 24 months	3
Over 2 years	1

The interest of this classification is that our patients, in regard to their ages, correspond closely to a period in infancy long known to be most susceptible to summer diarrhea.

SEX AND RACE.

The cases were about equally divided between the sexes. But two colored infants are included in our series, as the accommodations for these patients are limited.

HISTORY OF ILLNESS.

Unfortunately, because of the distance of the sanitarium from the city, the patients usually came under our observation after their initial symptoms. The mothers, as a rule, however, gave us a fairly definite history of onset, the record often being that the baby, after a day or two of languor, was suddenly seized with diarrhea, usually preceded or followed by vomiting. At the same time a rise in temperature was noted. Subsequently there was increased constitutional disturbance indicated by a loss of appetite, malaise and restlessness. The stools at onset, although increased in number and often fluid in consistency, were fecal in character. Soon, however, except in the very mild attacks, the fecal odor and appearance were lost, and the discharges were composed largely of greenish mucus, and not infrequently tinged with blood. During the height of the illness the temperature usually continued elevated, and nausea and vomiting, even after a reduced diet, were common. It was at this period that the Shiga bacilli were obtained in large numbers in the stools. These acute attacks varied greatly in severity. In some cases the constitutional disturbance was slight and the stools were little affected; on the other hand, several of our patients presented early symptoms of profound intoxication, evinced by convulsive spasms, excessive nausea and vomiting, and increased languor, ending in coma. A large number of the

cases, however, exhibited quite a different picture. After an acute onset, instead of toxemia ending fatally or in a prompt convalescence, the baby showed symptoms indicating a more localized affection of the intestine. In these instances, which included more than half of our series, after variable periods the stools became muco-purulent, and contained often an increased amount of blood, some of it bright red in color. The temperature showed a daily, usually an evening, rise. The appetite remained poor, and vomiting was not infrequent. There was evidence of considerable pain in the lower abdomen; tenesmus was marked. These cases often became chronic and lasted for weeks. They were more numerous during the latter part of the summer, and were less amenable to treatment. Often, despite many carefully prepared diets, there was progressive loss of weight, increase in anemia, and a fatal termination from exhaustion. In several instances in our series the specific infection was superimposed on infants which for months had been suffering from malnutrition and chronic intestinal indigestion. Of several of the clinical features a few words may be added.

TEMPERATURE.

The temperature in the series of cases varied from 95 F. to 105 F. As has been mentioned, daily rises in temperature were often noted. The degree of bodily heat was of clinical assistance only when considered with other signs and symptoms, as a drop to normal or subnormal temperature not infrequently was an indication of collapse, and the illness of several of our patients manifesting constitutional disturbances, ran an almost afebrile course.

GASTROINTESTINAL PAIN.

Gastrocolic was rarely noticed while at the sanitarium, but was present, according to the description of the mother, in a few cases at onset. A large number of the cases of long duration exhibited rectal tenesmus.

NUMBER AND CHARACTER OF THE STOOLS.

The stools varied in number from one to thirty in twenty-four hours. They usually became most frequent in the first three days after onset. The discharges presented also wide differences in character. Some were distinctly fecal, but semi-fluid or fluid in consistency. In the cases showing symptoms of indigestion, the stools were often pasty in character and gray in color. Hard masses would alternate with softer material. The element that was almost constantly present was mucus, either as a firm, translucent, gelatinous substance, or as more fluid, viscid, or stringy material, usually greenish in color. Marked inflammatory lesions of the lower bowel were indicated by the muco-purulent or purulent character of the stool. The amount of blood passed varied from a slight tinge or fleck to dark brown or bright red masses in fairly large quantities. Under the microscope many epithelial cells, varying in number of white and red corpuscles, bacteria, mucous strands and undigested food residue, fat globules and casein, composed the more constant elements.

COMPLICATIONS.

Complications early in the course of the illness were comparatively infrequent. Death in several instances was preceded by the appearance of livid erythematous blotches over various parts of the body. Terminal bronchopneumonia was not uncommon. In two instances there was concurrent lobar pneumonia, and in two other cases acute parenchymatous nephritis developed. Occasional edema of the extremities was noticed not associated with alterations of the kidneys, and in several instances stiffness of the neck and extremities would have suggested meningitis had it not passed away after a few hours.

ILLUSTRATIVE CASES.

A résumé of each of the histories of our series would hardly be profitable, as in the main they present very similar and familiar features. From a large number, however, several may be selected as representing the more important clinical groups. The following is an instance of a mild form of diarrhea:

CASE 1.—A child 18 months old, fed at the table, became cross and irritable. A few days afterward its stools increased to from seven to ten a day and were described by the mother as "green and slimy." On admission to the sanitarium they were found to consist largely of green mucus, with numerous soft, white lumps. They never contained any blood. There was occasional vomiting. Physical examination, negative. There was no marked prostration. On a regulated diet the discharges became homogeneous in form, the mucus disappeared, and the child soon completely recovered.

A much severer type of an acute case with complication is illustrated by the following instance:

CASE 2.—An infant 8 months old, fed on condensed milk and previously well, was suddenly seized with moderate diarrhea. For several days the stools were not more than six in twenty-four hours, but on the day before admission they increased to twenty, and were fluid, with considerable mucus, but no blood. The general condition of the baby became markedly worse. He was feverish, restless and had several fainting spells. On admission the child was in collapse. The rectal temperature was 105 F., pulse 180, face pale, and extremities cold. The eyes were sunken and the abdomen scaphoid. Physical examination of the chest, negative. There was some response to stimulation, and for two days his condition improved. On the third day, however, albumin in large quantities appeared in the urine, with many granular casts and pus cells. The tissues about the neck and chest became edematous; the child gradually became more listless; coma ensued, ending in death three days after the renal involvement. At autopsy the intestines were little altered. There was no distension. The mucosa was pale. Peyer's patches were moderately enlarged and somewhat injected, as were also the solitary follicles. The mesenteric glands, particularly those draining the sigmoid flexure and rectum, were somewhat enlarged. There was no lesion of the intestinal mucosa. The kidneys were the large and white kidneys, indicating acute parenchymatous nephritis.

In the next case, although not unlike clinically, there was evidence of a destructive lesion of the lower bowel.

CASE 3.—An infant of 5 months, fed for four months on condensed milk, began two weeks before admission to be fretful and to vomit occasionally. Soon after the stools increased in frequency and were described as "yellowish and slimy." No blood was noticed. The child was found, on examination, to be rickety and anemic, and did not improve after admission. There was a moderate fever. The stools were six to seven a day, and consisted of thick, viscid mucus and contained considerable blood and pus. There was some rectal tenesmus. The baby gradually lost weight and strength, the blood in the stools increased, and death ensued about five weeks after the onset of acute symptoms. At autopsy numerous small hemorrhages were found scattered through the ileum; the mucosa of the entire colon was thickened and covered with bloody mucus; the solitary follicles were much enlarged and the seat of numerous small ulcerations. The mesenteric glands were everywhere swollen and red.

One other history will be cited as illustrative of a case of long-standing malnutrition.

CASE 4.—An infant was 7½ months of age, a twin and delicate from birth, breast-fed for two months, but during the remaining five months the diet has been variously modified. For most of this time the stools varied from two to eight in

twenty-four hours and frequently contained mucus. There was little or no gain in weight. Frequent colic; occasional vomiting. The abdomen was usually distended. Two weeks before admission these symptoms became somewhat aggravated. The child was found on examination to be markedly rickety, with general glandular enlargement. After admission its general condition remained about the same. For days at a time the stools would become more homogeneous and firm, only to show a return of mucus and pus after a short period, despite careful feeding and rectal irrigations. There was never any blood. The temperature was but slightly elevated. The infant remained with us until the end of the season, and was discharged unimproved.

What has been said of the clinical history of our forty-two patients and the illustrative cases cited, are sufficient, certainly, to warrant the assertion that, so far as can be told at the bedside and in the autopsy room, we were dealing last summer with no unusual form of intestinal disease, but with the common varieties of summer diarrhea. Our cases fall naturally into two or three large groups which have long been recognized, namely: into those of an acute dyspeptic or fomental diarrhea (gastrointestinal catarrh) of varying degrees of severity, in which the toxic symptoms were prominent—twelve cases; into those of colitis, marked by the definite inflammatory lesions of the intestinal mucosa—twenty-six cases; and again into at least four instances which were primarily malnutrition, marasmus, or chronic indigestion, but in addition to which the element of infection has been added. It is well understood that these divisions of intestinal diseases do not represent definite clinical entities, but that one form of illness may readily pass into another; that the cases of ileocolitis usually begin with symptoms of dyspeptic diarrhea, and that ill-nourished infants are particularly prone to either form of disorder. Of the most fulminating variety of the toxic intestinal diseases, namely, cholera infantum, we had no example in our series. It is suggestive, however, that in the stool of an especially acute case, one thought at first to be cholera infantum by the attending physician, the Shiga bacilli were found in greatest numbers. It will be reiteration to go over the histories of the infants treated in previous years at the sanitarium. In the summer of 1901 nearly five hundred intestinal cases were admitted. These, too, can be roughly divided into the groups just indicated. During that season we were able to obtain more than twenty autopsies. The findings at the postmortem table substantiated those of the cases of our present series which came to autopsy. The intestines of infants observed two years ago suffering from acute toxic affection likewise presented little pathologic alteration. The mucosa was pale and thin, the lymphatic elements in the intestinal wall moderately enlarged, and the mesenteric glands swollen. On the other hand, in a second group of cases the lower bowel was extensively involved, the mucosa being thickened, and often the seat of more or less extensive ulceration, the ulcers beginning usually at the summit of the swollen solitary follicles. The mesenteric glands were hypertrophied. It is an interesting fact that neither in our autopsy findings of last summer nor in the postmortem examinations of the larger series of 1901, was any false membrane found lining the intestines, as is so frequently described in the acute epidemic dysentery of adults.

LEUCOCYTE COUNT.

During that summer the leucocytes in a large number of intestinal cases were examined by Dr. Warfield and the writer.[11] A leucocytosis was found, but the number of white cells varied within such wide limits, even in the mild forms, that a high or low count could not be regarded as of diagnostic value. The differential count, however, showed that while there was no change in the relative ratio of the white cells in the normal infant, in the simple diarrheas, or in malnutrition, that as the case became more severe in type there was a progressive increase in the polymorphonuclear neutrophilic cells and a decrease in the small mononuclear variety, and that this polymorphonuclear leucocytosis took place both in the case of acute intestinal poisoning and in the more severe forms of ileocolitis. The counts made last summer in the series of cases under consideration confirm these results and add some support to the contention that similar varieties of intestinal derangement were under observation.

TREATMENT.

The treatment pursued at the sanitarium followed the usual lines, and will be but briefly referred to. In the acute cases, milk was withheld and sterile water with thin broths, or plain water with a little egg albumin substituted. Whey or whey-cream mixture was found a useful intermediary step to the gradual return to a milk diet. With the chronic cases, milk, beginning with high dilutions, occasionally predigested, often with a cereal water as a diluent, formed the chief reliance. Colon irrigations were frequently given and gastric lavage as the symptoms indicated. Drugs were sparingly used. An initial purge of calomel or castor oil was administered when the baby came early under observation. Various astringent preparations, tonics and opiates were occasionally employed. Injections of salt solutions under the skin were less frequently resorted to than in former years, as it is felt that this procedure has been somewhat over extolled. As stimulants, strychnin, digitalin, alcohol, and atropin were found serviceable in the order named. In the giving of stimulants we were greatly helped by the introduction by Dr. H. W. Cook,[12] clinical assistant, of a modification of the Riva-Rocci sphygmomanometer, by which the blood pressure of the little patients was rapidly recorded. With the additional aid of this instrument at the bedside, Dr. Cook shows that the actual vitality of the infant can be more accurately determined than by the skilled finger on the pulse, and the kind and amount of stimulant suited to the particular need of the hour. Late in the summer we were supplied by Dr. Flexner with an anti-dysenteric serum found protective to laboratory animals. Unfortunately, at this time there were no acute cases at the sanitarium. Several infants ill with ileocolitis, from whose stools the Shiga bacillus had been isolated, were injected hypodermically with 5-10 c.c. of this serum twice a day. No change could be noted in the patient's condition. No untoward effects followed the serum treatment, and it is hoped that more powerful serum in perhaps larger doses will prove to be of therapeutic value, particularly in the early cases.[13]

Enough has been said to make probable the assertion that the infant population of Baltimore during the summer of 1902 suffered from no unusual scourge, but rather was subjected to the accustomed epidemic of diarrheal diseases regularly recurrent during the warm weather, and that typical instances of these disorders were under treatment at the Thomas Wilson Sanitarium. That these infants were not the victims of an infection local to the sanitarium is shown by the fact that they were admitted from all sections of the city already ill. Two cases were from more distant parts of the state. Moreover, since the results of the investigation by Duval and

Bassett have been known, other workers have found the dysentery bacilli in the stools of babies suffering from diarrhea in other localities; thus, Zahorsky,[14] in St. Louis, and Park and Dunham, in a small epidemic at Seal Harbor, Maine, have reported such cases. The extent of epidemics in Japan and in the Philippines indicates that the organism is capable of very wide distribution. Only future research can determine the geographical or climatic limitations of the infection, but it would appear that a large group of the summer diarrheas of infancy are associated with bacilli identical with, or closely related to, *B. dysenteriæ* (Shiga). Recent work by Lentz,[10] His and Russell,[15] Park,[15] and others indicate that minor differences may exist in the cultural properties and startling variations are pointed out in the agglutination reaction of the bacilli isolated from different sources. Thus Park finds that in indol and acid productions, as well as in agglutination reactions, the Japan and New Haven cultures are separated from the Manila, Baltimore, New York and Seal Harbor cultures. Whether, in the search for the cause both of dysentery in adults and of summer diarrhea in infancy, one has to deal with a group of very closely related organisms, or, as is more probable, with slightly different strains of the same bacillus comparable to the differences that can be shown in the various typhoid and colon cultures, is a most interesting and important problem for the bacteriologist to determine.

CLINICAL SIGNIFICANCE OF THE FINDING.

This bacteriologic finding in connection with the summer diarrheas of infancy is of no less interest to the clinician, as it spurs him on to attack with renewed vigor the old problems of prophylactic treatment. Professor Koch,[16] in his notable address two years ago in London, showed the blunder of attempting to treat pestilences according to a general scheme. He said: "Every disease must be treated according to its own individuality, and the measures to be taken against it must be accurately adapted to its specific nature, to its etiology." If the investigations of last summer are substantiated, effort may be directed for the first time against a recognized foe. Questions, then, of the utmost importance can be propounded with some confidence that they will be accurately answered.

METHOD OF PROPAGATION.

One of the first of these problems is to determine the means by which the infectious agent reaches the infant. Although the number of cases in our series is too small to warrant positive assertions, there is some rather suggestive data on this point in the histories of our patients. It can hardly be doubted that the disorders being considered primarily affect the gastrointestinal tract, and therefore that the mouth is the portal of entry, and that the source of infection takes place in the great majority of cases through food or drink, that is, in young infants, through contaminated milk or water. Condition of the milk supplied to the poor from the small stores in our large cities is notoriously bad. During the summer of 1901 Bassett and the writer[17] examined a large number of samples of milk supplied the babies in Baltimore suffering from summer complaint before their admission to the sanitarium. This milk was found to have an average germ content of over four million to 1 c.c., and several samples contained ten to twenty million bacteria in each cubic centimeter. Last summer Schorer repeated and verified this work. He was able to show a progressive increase in bacteria and in diluents in the milk during each stage of its handling from the farmer through various dealers to the baby. Because the milk is so good a culture medium in the warm weather without proper refrigeration, a small initial contamination is sufficient to render it in a few hours unfit for infant feeding.

For the explanation of the sudden outbreaks of this illness at the same time in different sections of the community, one is tempted to turn to a general source of infection. The dysentery organism is related biologically to the colon and typhoid bacillus which are usually conveyed to man through water.

With this thought in mind, an effort was made to find out the character of the water supplied to our patients. The mothers were asked specifically whether the water used in preparing the nourishments, and what is just as important, that supplied to the infants between feedings, was boiled. Concerning but twenty-eight out of the forty-two babies was fairly reliable information obtained as to both the milk and the water used. In twenty-six of these cases unboiled city water was given the babies, either with their nourishment or separately, and in but two instances was all the water supplied boiled. Of particular interest are four infants ill with this specific diarrhea, who were exclusively breast-fed, but to whom unboiled water was given between nursings. Four other babies whose only food was condensed milk, were likewise given unboiled water between feedings. These cases are too few to admit of generalization, but they do suggest that the dysentery, like the typhoid bacillus, may be harbored in the public waters. Indeed, it is possible that infection of the milk with the organism is brought about through dilution with impure water. It is possible to conceive that the disease may be propagated in other ways. Outbreaks of this form of summer diarrhea in asylums and hospitals, where sterilized milk and boiled water are used, are probably brought about by the spread of the disease from patient to patient, through carelessness on the part of attendants. Another source of danger is insects, particularly the common house fly. In the only case in our series contracted at the sanitarium infection was probably conveyed through flies. The child concerned was fed exclusively on pasteurized milk, and given only sterilized water, but there was no means at hand to adequately protect him from the swarms of flies, which may easily have carried the infective agent from a napkin to his hands or feeding bottle. It is difficult to account for the comparative freedom of infants from this form of illness during cold weather and its regular return as a widespread epidemic in summer. Shiga has pointed out that the dysentery bacillus is kept alive in Japan by the occasional sporadic cases which occur during the winter in that country. Evidence suggesting a similar condition among infants in America is accumulating. Thus, in four children brought to the Johns Hopkins Hospital because of diarrhea during January, February and March of this year, the Shiga bacillus was isolated by Bassett, and Ford has lately found the same organism in the stools of a man suffering from a mild gastro-enteritis. By means of such sporadic cases, and because this bacillus may be harbored for months in small numbers in the intestines of chronic cases, it is not destroyed during the winter, but is at hand each summer to rapidly proliferate under favorable conditions. It has been repeatedly emphasized that infants suffering from marasmus, less severe forms of malnutrition, and from other chronic ailments, are its readiest victims.

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The name, "dysenteria infantum," or "infantile dysentery," is suggested for the infection under consideration. This designation would distinguish these cases from other forms of intestinal disorder, and also from the specific dysentery of adults, which, although having the same etiology, seems to present clinical and pathologic differences.

From the foregoing discussion, it may be fairly concluded that:

1. The diarrheal disorders of a large series of children treated in the Thomas Wilson Sanitarium during the summer of 1902 were produced by a bacillus thought to be identical with the *B. dysenteriæ* (Shiga).

2. The cases in this series presented the clinical and pathologic features of the several forms of the summer diarrheas of infancy.

3. There is good reason for the confidence that a proportion, and probably a large one, of the so-called summer diarrheas of infancy is caused by the *B. dysenteriæ* (Shiga).

4. A confirmation of the work of Duval and Bassett by establishing the etiology of this yearly epidemic among infants, will make possible the use of more intelligent measures to control and suppress it.

5. More success can be expected from prophylactic measures and from medicinal and serum therapy than ever before.

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OTITIS MEDIA IN INFANCY.

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Many papers have appeared on this subject within the last few years. Nevertheless, my experience leads me to believe that the profession, as a whole, does not realize as it should the frequency of this condition in infancy and its importance in differential diagnosis. I have learned to look for it in all cases of doubtful diagnosis and to consider it as a possible cause for any symptoms not otherwise easily explainable in the course of other diseases. No physical examination in infancy in which other definite signs sufficient to account for the symptoms are not found should be considered complete without an examination of the ears. Many awkward mistakes would also be avoided if they are examined even when the signs of other conditions are present.

Many physicians seem to think that inflammation of the middle ear is always associated with earache, and hence if there are no evidences of earache they do not consider the ears at all. This view is certainly not justified. Many infants with acute inflammation of the middle ear show no signs of pain at any time, and many others who evidently have pain somewhere show nothing by their actions which will direct the attention of the physician to the ear. It is a common impression that putting the hand to the ear means earache. It sometimes does, but more often does not. All sick babies are very likely to wave their arms about, grab at their ears and pull their hair. Apparent tenderness on pressure over the mastoid is another most unreliable guide. Tenderness over the mastoid is unusual anyway, in simple acute inflammation of the middle ear, and, on the other hand, most sick babies will cry if firm pressure is made on any part of their body. The only way to determine satisfactorily whether or not there is inflammation of the middle ear is to examine the ear with a speculum; all other methods of examination are incomplete and necessarily misleading. The examination of an infant's ears is not a simple matter and requires considerable experience. The results, however, are well worth the time required to master the technic. A smaller speculum than comes with most sets is necessary.

Acute inflammation of the middle ear is usually, but not always, associated with fever, which may be high. It causes many reflex symptoms, which are sometimes quite severe, convulsions not being very uncommon. These reflex symptoms very often attract the attention from the real seat of the trouble to some other part of the body. Meningitis, pneumonia, gastritis, worms, dentition and, in fact, almost every acute disease but the right one is suspected.

An acute primary inflammation of the middle ear is, however, probably more often mistaken for pneumonia than for any other condition. The following case is an example. It also shows very well the results of treatment.

CASE 1.—John R., 6 months old, was taken suddenly sick February 18 with fever, cough and difficulty in breathing. He lost his appetite, but showed no other symptoms of gastro-enteric disturbance. He was taken to a physician February 21, who found the temperature 104.2 F., the pulse 160 and the respiration 52. He sent the baby to the Infants' Hospital with the diagnosis of pneumonia. The physical examination was not made until the next day.

He was a large, fat baby. The color was good. The alæ nasi did not move. The fontanelle was level. There was a slight rosary. The heart and lungs were normal. The abdomen was full and somewhat tense. There was an umbilical hernia. The liver was normal, the spleen not palpable. The extremities were normal, the knee-jerks equal and lively. Kernig's sign was absent. The temperature was 100 F., the pulse 115, and the respiration 38.

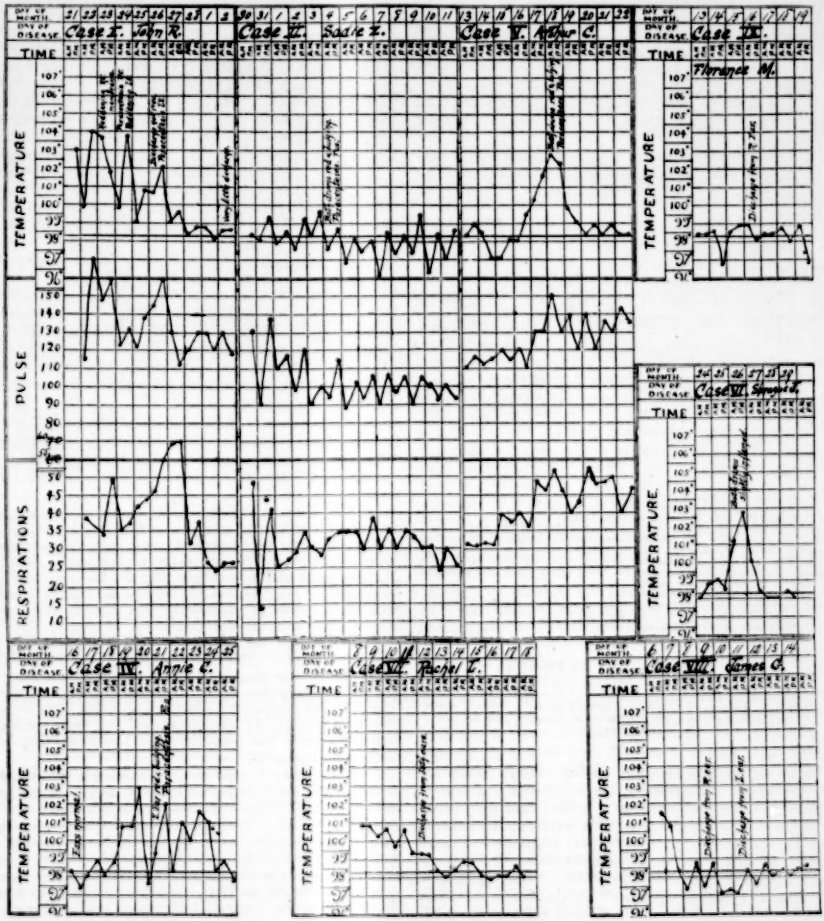
While the picture was not that of a pneumonia and the lungs were negative, the disproportion between the rate of the pulse and that of the respiration pointed to a certain extent to some pulmonary trouble. The rapid rise in the temperature and pulse rate that night, while the rate of the respiration remained the same, pointed strongly against it, however.

The next day, the 23d, the ears were examined and considerable reddening of the right membrana tympani was found. On the 24th it was bulging. Paracentesis was performed and a small amount of pus let out. The left drum was also reddened but did not bulge.

The temperature immediately dropped and showed a tendency to run lower. On the 26th, however, it rose again, as did the pulse and respiration. The respiration again rose out of proportion to the pulse. Nothing could be found in the lungs, however. Examination of the ears showed that the right was not discharging freely and that the left drum was bulging. Paracentesis was done on the left ear and the discharge re-established in the right. The temperature and pulse

dropped immediately and were followed in twenty-four hours by the respiration, all remaining normal afterward.

In the following case the symptoms were most unusual and misleading, all pointing to some obscure cerebral condition, either acute or chronic. The true condition was not suspected, although the patient was seen by a number of men, all of whom were well aware of the importance of ear disease in infancy as well as of the variety of its symptomatology.



CASE 2.—Sadie Z., aged 15 months, had a good family history. There was no history of nervous or mental disease or anything to suggest syphilis. She was delivered by instruments, the head presenting, and was normal at birth. She had always been well except for chicken-pox at thirteen months. Her parents said that she was unusually bright mentally. She had walked alone for a month or more.

On December 13 she tripped on the floor and fell, striking her head on a chair. She did not appear to be much hurt. About this time she began to have a slight cough. December 22 she began to have "convulsions," which continued up to the time of entrance to the Infants' Hospital, December 30. The cough continued and she vomited several times daily. The bowels moved daily and the movements were normal.

She was well developed and nourished. There was moderate pallor of the skin and mucous membranes. The head was of normal shape. The anterior fontanelle was about 1.5 cm. in diameter and slightly depressed. She did not open the left eye quite as widely as the right, but closed both vigorously. The motions of the eyes were normal and the pupils reacted quickly to light. She both saw and heard. She had five teeth. Her tongue was clean. There was no rosary. The heart, lungs, liver and spleen were normal. The abdomen was nega-

tive. There was no rigidity of the head or spine. There was no spasm or paralysis of the extremities. The knee-jerks were equal and somewhat exaggerated. Kernig's sign was absent. The inguinal glands were slightly enlarged, the cervical and axillary were not. The urine was pale, acid, of a specific gravity of 1008 and contained no albumin.

She slept well and was perfectly quiet when asleep. When awake there was almost always a tremor of the head and arms, although she was sometimes quiet for a short time. This tremor was rhythmical and very rapid. It was most marked in the head and arms, although it was also present in the body and legs. She was very easily excited and frightened. She then became rigid and threw herself about, crying loudly. The cry was interrupted at short intervals, but the rhythm was much less rapid than that of the tremor. In these attacks the tremor was much more marked and more rapid. In some of the attacks there was also nystagmus, usually lateral, but sometimes vertical.

The temperature was normal at entrance and never went above 99.6 F. The pulse and respiration were somewhat rapid for the first two days, but after this showed nothing worthy of note.

Her stomach was washed out and her bowels emptied with castor oil. The vomiting ceased at once and did not recur. The movements were normal. Moderate doses of bromid and chloral had no effect. Her condition continued unchanged and there was no change in the physical signs. The fundi of the eyes showed nothing abnormal.

She was seen by three specialists in nervous diseases, all of whom agreed that the fall was a coincidence and that there was no acute cerebral process. They said that the history of normal mental development must be wrong and only a congenital cerebral defect could account for the symptoms. The medical men who saw her did not agree with this diagnosis, but also ruled out meningitis and injury as the cause of the symptoms. They were, however, unable to make any diagnosis.

Her ears were examined January 4 as part of a routine examination of all the babies in the hospital. Both drum membranes were generally reddened and bulged in their upper posterior portions. Paracentesis showed pus on both sides.

Improvement was almost immediate and after the first few days was very rapid. The ears were normal on January 14 and she was discharged well a few days later. There has been no return of the symptoms.

In certain other cases of a more subacute type the symptoms are those of confined pus. The hectic temperature, often associated with chills, and the apparent absence of a local cause often lead to the diagnosis of tuberculosis or malaria.

CASE 3.—Joseph B., 22 months old, was seen July 22. He lived in a malarial district. He had always been delicate and pale. He had had a cough since an attack of bronchitis in the early spring. He had also had a slightly elevated temperature since that time. During the last two weeks he had seemed worse and the temperature had ranged higher. The night before he had had a chill, followed by a temperature of 105 F. and sweating. Nothing abnormal had been found on physical examination except pallor and a slight enlargement of the spleen. The urine showed nothing abnormal.

An almost positive diagnosis of malaria had been made on the basis of the chills, fever and sweating, the enlargement of the spleen, the pallor and the apparent absence of any other cause for the symptoms. Examination of the blood, however, showed no plasmodia and 30,000 white cells, a finding entirely inconsistent with malaria.

An examination of the ears, which had hitherto been overlooked, disclosed the seat of the trouble. Pus was found on both sides and evacuated. Improvement was continuous and rapid from that time.

Acute secondary inflammations of the middle ears are far more common than the primary forms. They occur most frequently, of course, as complications of diseases of the respiratory tract, especially when the upper air passages are involved. They are especially likely to be overlooked and their symptoms misinterpreted when the disease is mainly pulmonary, all the symptoms being attributed to the local process in the lungs. The following cases show the importance of being on the lookout for ear complications in these diseases.

CASE 4.—Annie C., aged seven months, was admitted to the Infants' Hospital March 4. She had the signs of a diffuse broncho-pneumonia on the right side, and those of a general bronchitis on the left. She was also poorly nourished and slightly rachitic. The temperature fell to normal on the 6th and there remained. The general condition improved and the lungs cleared up, except for a few râles in both backs. A routine examination on March 16 showed that the ears were normal.

There was a sudden rise in the temperature, pulse and respiration on the 19th. A recrudescence of the broncho-pneumonic process was of course suspected. Nothing new was found in the lungs, however, either then or later. Finally on the 21st the ears were examined, and the left drum found red and bulging. Paracentesis let out a small amount of pus. The temperature continued irregularly elevated for several days and then dropped to normal, where it remained.

CASE 5.—Arthur C., aged seven months, was admitted to the Infants' Hospital February 28, with broncho-pneumonia. On March 14 there was dulness in the left back with bronchial respiration below the spine of the scapula. Many coarse, moist râles were heard throughout both lungs; they were most numerous at the left base. The temperature was normal and the rate of the pulse and respiration but little increased. A diagnosis of convalescence from broncho-pneumonia was made.

He did perfectly well until March 16, when the temperature, pulse and respiration began to rise, reaching their maximum on the 18th. The rate of the respiration rose out of proportion to that of the pulse. Everything pointed to a lighting up of the process in the lungs. The examination of the lungs, however, showed only slight dulness in the left back below the angle of the scapula with slightly changed respiration and a few coarse, moist râles in both lower backs, a much better condition than four days previously. An examination of the ears showed that both drums were reddened and bulging. Paracentesis disclosed pus on both sides. The temperature fell rapidly to normal and there remained. Nothing developed in the lungs.

Inflammation of the middle ear may develop in any of the diseases of infancy as well as in those of the respiratory tract. They are especially common in conditions of malnutrition, whether or not due to diseases of the gastroenteric tract. The amount of reaction seems to depend a good deal on the general condition of the infant, being less marked in the feebler babies. It is not at all uncommon at the Infants' Hospital to have one-third or one-half of the babies with serious disturbances of nutrition develop middle ear inflammation. The following cases are examples:

CASE 6.—Sprague J., 3½ months old, had always been improperly fed and had always had colic, vomiting and diarrhea. He had recently lost weight pretty rapidly. He was admitted to the Infants' Hospital March 12.

He was fairly developed and nourished, but rather pale. The physical examination was negative except for a slight rosary. A routine examination of the ears a few days after entrance showed nothing abnormal.

He responded very quickly to proper food, stopped vomiting, and after a few days had normal movements. He did not gain in weight, however.

On March 26 the temperature suddenly rose to 102.8 F. The pulse and respiration did not rise, however, and no other symptoms developed. Nothing abnormal was found on physical examination until the ears were examined, when both drums were found slightly inflamed. No treatment was in-

stituted. The inflammation in the ears rapidly subsided in the next 24 hours and with it the temperature fell to normal, where it remained.

CASE 7.—Rachel L., five weeks old, was admitted to the Infants' Hospital June 8. She had always been improperly fed, had always vomited and had green, watery movements. She had lost weight rapidly during the week before entrance. She was small and thin. The skin was mottled and the extremities cold and slightly blue. The anterior fontanelle was depressed and the cranial bones overlapped. The abdomen was distended. The examination showed nothing else abnormal.

She took her food well and vomited a little, but had three or four green, watery movements with curds and mucus daily. The elevated temperature, which varied between 100 F. and 101 F., was attributed to enteric disturbance.

Both ears began to discharge on the 12th. The temperature immediately fell to normal, where it remained. As there was no improvement in the condition of the digestive tract the fever must have been due to the process in the ears.

While middle ear disease in infancy usually causes some symptoms, even if nothing more than a slight rise in the temperature, it may develop and go on to perforation of the drum membrane without producing any symptoms whatever. This happened in the two following cases. They suggest strongly the advisability of routine examination of the ears in all sick infants, no matter what the disease or whether or not there are symptoms pointing to aural trouble.

CASE 8.—James G., aged 2½ years, entered the Infants' Hospital just on the crisis of a lobar pneumonia. The temperature did not rise again and the lungs cleared up rapidly. He presented no symptoms whatever suggesting trouble in the ears or elsewhere, yet three days after entrance the right ear began to discharge, and two days later the left ear.

CASE 9.—Florence M., aged three months, entered the Infants' Hospital March 7. No history came with her. She was emaciated and the skin was mottled. The anterior fontanelle was small and depressed. There was a slight rosary. The physical examination was in other respects negative.

She took her food well, seldom vomited, had nearly normal movements and gained in weight. She had no fever at any time and showed no symptoms pointing to aural trouble. Nevertheless a discharge from the right ear appeared March 16.

In conclusion, I wish to thank Dr. T. M. Rotch for permission to make use of such of the cases as were on his service. The examinations of the ears, as well as the operations, were done by Dr. E. A. Crockett, aurist to the Infants' Hospital.

LOCOMOTOR ATAXIA

COMPLICATED BY THROMBOSIS OF THE PONTILE ARTERIES, WITH REPORT OF CASE.

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DENVER.

W. R. M., male, admitted to St. Anthony's Hospital June 5, 1899, aged 45, traveling salesman, born in New York, in Colorado fifteen years. Family history negative.

Previous History.—Had the usual diseases of childhood, after which he enjoyed good health until he was fifteen years of age, when he met an accident, fracturing his right leg. At 20 years of age he contracted gonorrhea. When 40 years old he suffered from severe pains in the legs, which were sharp, shooting and momentary in character and were influenced by changes in the weather. About the same time he noticed that his gait was gradually becoming unsteady and at the present time he is unable to walk in the dark without falling. Three years ago he complained of a girdle sensation, also difficulty in starting his urine to flow, although while asleep the urine dribbles from him. During this year, while alighting from a street car, he fell, striking his buttocks without any serious consequences. For the past two years vision has failed, but he never sees double.

Bowels regular. Denies alcoholism. Had syphilis when 25 years of age. Several months before his present trouble manifested itself he suffered from headaches and dizziness, but did not have any transitory weakness on either side of the body.

Present Illness.—Began thirty hours previous to being admitted to the hospital. After eating a very hearty breakfast he suddenly became so dizzy that he was unable to remain in the erect posture, also suffered from numb and tingling sensations in hands and feet, more marked on right side of the body. At the same time complained of a sharp shooting pain over the left eye, which was momentary and recurred at intervals. The dizziness, numb and tingling sensations continued for ten or fifteen minutes, when he noticed that he was unable to swallow, although he was able to talk, but his voice was weak. At the same time he complained of weakness of the right arm and leg, although he was able to walk. At no time during the attack did he lose consciousness.

Examination.—There is marked ataxia in legs and arms and slight in the trunk muscles. On assuming the upright posture the dizziness is so great that he falls to the floor. Knee jerks: right, absent; left, same. Ankle clonus, absent. Tendo achillis: right, slight; left, slight. Deep reflexes of forearm: right, present; left, same. Masseter, absent. Plantar reflexes, increased. Cremasteric: right, increased; left, absent, probably due to the presence of a large scrotal hernia. Abdominal, absent. Muscular power in right arm and leg very much diminished compared to the opposite side. Tactile, joint, pressure and muscular senses present.

Pain sense: He is unable to distinguish the difference between a dull or a sharp point on the right side of the body, nor is pain complained of when pricked with a sharp point. Throughout the left side pain sense is present. Temperature sense is lost on the right side, but is present throughout the left side. Muscular power in the lower portion of the face decidedly impaired and the mouth is drawn to the right. Voluntary movements are more affected than emotional. Tongue deviates to the left. Left side of palate hangs much lower than right and on tickling the left side no reflex is produced, although it is readily elicited on the opposite side. Respiratory movements decidedly increased. Voice very husky, but every word pronounced distinctly. Dynamometer: right, 50; left, 66.

Pupils: right is larger than left and both respond to accommodation, but not to light. External ocular movements good. Fundi and fields of vision normal. Hearing: right (watch) heard on contact; left, 12/24. Taste: present on right side; absent on left. Smell: present on right, and absent on left.

July, 16, 1899. Patient is able to swallow liquids, but insufficient to sustain life.

July 23, 1899. Is able to take soft food and liquids. Feeding by tube resorted to occasionally.

July 30, 1899. Use of the tube unnecessary. Dizziness still present. Examination of heart shows an aortic systolic murmur. Urine, sp. gr. 1021, no albumin or sugar.

This case is of interest from two points of view, as the symptoms indicate that the brain and spinal cord are involved. The symptoms from which the patient suffered previous to his present trouble are characteristic of degeneration of the spinal cord, although the motor form of multiple neuritis must be considered in making a differential diagnosis. The presence of the Argyll-Robertson pupil, girdle sensation around the trunk and involvement of the sphincters would be sufficient evidence that the lesion is in the cord. The absence of paralysis of the extensor muscles, tenderness of same and the disease not being distinctly peripheral, symmetrical and bilateral and without reaction of degenera-

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tion, would exclude inflammatory affections of the peripheral nerves. In ataxic paraplegia the ataxia is preceded by a spasm of the muscles, increase of the knee jerks, and the absence of sensory symptoms would be sufficient to eliminate this disease in arriving at a conclusion. The length of time the symptoms have existed would exclude all acute lesions of the cord. The patient suddenly became affected with dizziness, which was so intense that he was unable to assume the upright posture, with paralysis of the lower left side of the face and paralysis of the right arm and leg, associated with disturbance in sensation of the same side of the body. At the same time he had loss of power in deglutition, loss of sensation on the left side of face and mouth, with loss of taste and smell on the same side.

All these symptoms indicate that the secondary lesion is in the brain, and to determine its probable nature it is best to consider some of the acute, chronic and sudden diseases of this organ. The time consumed in the development of the symptoms in this case, without any elevation in temperature, would enable one to pass all inflammatory diseases of the encephalon.

The chronic lesions are morbid growths, abscess and aneurism. The history of this case and the non-involvement of the optic nerves by inflammation, with the resulting atrophy, would exclude aneurism and morbid growths.

The onset of the symptoms which complicated the locomotor ataxia was sudden, reaching its height in a few minutes; excluding traumatism, all such cases are vascular in nature.

The vascular lesions to be considered are hemorrhage, embolism and thrombosis. Absence of a full, strong pulse, throbbing carotids, loss of consciousness and slight disturbance in bodily temperature would not be in favor of cerebral hemorrhage. Small or gradual hemorrhages may occur without marked disturbances in consciousness, with slight paralysis and without great disturbance in the bodily temperature.

On admission to the hospital the symptoms in this case were extensive without any involvement of consciousness, and the exclusion of a hemorrhagic lesion is justifiable.

In cerebral embolism the symptoms come on suddenly, with marked disturbance in consciousness, associated with some form of cardiac disturbance, and without the latter one is not justified in arriving at such a conclusion. The patient under discussion has an aortic systolic murmur, but cardiac compensation is well maintained and an embolus affecting the portion of the brain where this lesion is located would produce sudden profound unconsciousness, with bilateral involvement of the extremities, without any premonitory signs, and the symptoms produced would depend on which portion of the basilar artery was affected.

The upper portion of the basilar artery is most frequently occluded by an embolus, and the symptoms manifested may simulate those of locomotor ataxia to a certain extent, particularly the ocular symptoms, but differ from those produced by a vascular lesion by being transient and associated with paralysis of the opposite side of the body.

The diagnosis of thrombosis was, therefore, made on the following symptoms: premonitory symptoms, headache, dizziness, with numb and tingling sensations in the parts subsequently paralyzed. The paralysis came on suddenly without loss of consciousness and with the characteristic disassociated symptoms in the affected parts.

A lesion of the cerebral cortex, centrum ovale and internal capsule can be excluded by the character of the paralysis and the presence of the disassociated symptoms, along with disturbance of deglutition and involvement of other cranial nerves. Disturbances in the brain at any of these locations would produce a monoplegia or hemiplegia on the opposite side of the body and if it is a hemiplegia the paralysis would not be crossed.

Affections of the crura are always accompanied by paralysis of the third nerve on the side of the lesion, with motor paralysis on the opposite side of the body.

The symptoms produced by lesions in the medulla are usually bilateral and from the number of cranial nerve centers affected, the patient would present symptoms similar to those found in bulbar paralysis, excepting that sensory symptoms are more frequently associated with the motor manifestations in vascular disease of this organ. Lesions in the pons produce all the symptoms which are present in the case under discussion, and it is of interest to know which portion of the pons is affected. Diseases in the extreme upper portion of the pons can be excluded, as we have no involvement of the third nerve nor crossed paralysis. The symptoms in the case are complex and show that the lesions are multiple.

If the disease was below the middle of the pons it would cause crossed paralysis, but the upper and lower portion of the face would be affected. Lesions just above the middle of the pons would produce paralysis of the lower portion of the face on the same side as the lesion with disturbance in motion and sensation on the opposite side of the body in the form of disassociated symptoms (loss of pain and temperature sensations, while tactile sense is preserved).

Loss of taste, smell, rapid respiratory movements and the inability to swallow may be accounted for by the involvement of the extreme lower portion of the pons and upper part of the medulla oblongata.

Vascular lesions in this position, after the irritative symptoms have ceased, can be more accurately located than other diseases, particularly tumors, as in the latter the irritative symptoms remain throughout their course.

The symptoms demonstrate that a number of vessels are affected and that they are those which supply the pons just above the middle, the extreme lower portion and the upper part of the medulla oblongata.

The character and extent of the symptoms indicate that the small arteries are affected inasmuch as those produced by involvement of the large vessels would be more extensive, with marked disturbance in consciousness, and bilateral in nature.

Causes of cerebral thrombosis are many, and the most prominent are atheroma, syphilis and blood states. No evidence of atheroma could be discovered in any of the superficial vessels in the body, and with a distinct history of specific infection one is justified in attributing the occlusion of the vessel to a syphilitic arteritis.

The large vessels at the base of the brain show the greatest changes in their walls, but the narrowing of the caliber of the artery is more pronounced in the small branches.

The changes that take place in the walls of the diseased vessels consist of inflammation, swelling and a gummatous deposit and, as a result, a lessening of the caliber.

Occlusion of an artery in thrombosis goes on gradually, but the final and complete plugging comes on suddenly by the formation of a blood clot.

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A NEW METHOD OF BACTERIAL VACCINATION.

As is well known, bactericidal sera, in contrast to antitoxic sera, have been extremely disappointing from the view-point of therapeutics. None, even the antistreptococcus serum, has an unassailable position in the treatment of disease in man. Experimental animals may in some cases be given a temporary immunity to certain bacteria of several days' to two weeks' duration. But the serum is rapidly excreted, and takes with it all its protective powers, i. e., its specific amboceptors. Even in this case it is a prophylactic injection, and not a curative. In view of the transient duration of the immunity conferred by an injection of bactericidal immune serum, its indiscriminate injection during an epidemic would probably be unjustified. On the other hand, bacterial vaccination, such as that of Haffkine against plague, while it appears to have been of value, has the objections that it often produces grave symptoms, is followed by a short period of decreased immunity, and if it should happen to coincide with an attack of the disease would probably seriously injure the patient's chances of recovery.

With the view of overcoming the disadvantages of the Haffkine injections, Besredka[1] injected a culture of an organism which had been treated with the specific amboceptors for that organism. It will be recalled that amboceptors are the intermediary bodies that bind the complement to the bacilli. The amboceptors resist heat, low degrees of which (56 C.) destroy complement. For example, a culture of the typhoid bacillus was suspended in salt solution and enough heated antityphoid serum added to cause complete agglutination. The mixture was allowed to stand for six hours, during which time the bacteriolytic amboceptors, as well as the agglutinating bodies, are fixed to the bacteria. The bacteria were then washed free of serum by repeated centrifugating in salt solution. The sediment, consisting of typhoid bacilli plus the immune bodies, was then injected into animals. It was found that immediate immunity was conferred, which endured for at least five or six months. No general or local symptoms followed the injection; and this was true of an injection Besredka made in himself. The same experiments were made with cholera and plague; in working with the latter killed organisms were used.

Of equal interest are the results of Marie,[2] who used the technic of Besredka in experimenting with rabies. For injections he used the brain of an animal which had died of rabies. The brain was subjected to the action of antirabic serum as the bacteria were to the action of the antibacterial serum. Also here a single injection conferred immunity which lasted for a number of months, the maximum duration not being determined.

The value of this method of prophylaxis over the Haffkine injections is apparent. As to rabies, it would apparently have advantages over the classical Pasteur method of treatment. However, it would require great courage to inject a fresh rabic brain into a human being, no matter how many antirabic amboceptors it may contain. In addition it is quite possible that a mixture which is harmless to a rabbit may not be a neutral one for man. It may be possible that in bites on or near the face, where the incubation period of rabies may be shortened, this method would be superior to the usual Pasteur treatment. If Besredka's results find sufficient confirmation, it would not be altogether impracticable, though difficult, to immunize whole communities against typhoid, cholera or plague.

1. Besredka: "De l'immunization active contre le peste, le choléra et l'infection typhique." Ann. de l'Inst. Past., xvi, 1902, p. 918.

2. Marie: "Immunization par des mélanges de virus rabique et de sérum antirabique." C. r. Soc. de Biologie, Dec. 5, 1902.

AMERICAN RESEARCH AND GERMAN REVIEWERS.

There is no contributor to American biologic literature in the branches of medicine and the allied sciences, who has not had occasion to note the marked disregard of German writers for contributions that do not bear the mark "made in Germany," this being particularly noticeable when it concerns work published in this country. Time was when we felt hurt that our struggles to do good honest research were not appreciated, perhaps not believed, by those to whom we owed most of our foundations in science. Now the situation has changed. With our new wealth of production, its best undoubtedly of the very highest quality, we are inclined to merely wonder when the Teutonic awakening is to come. How long before the German will appreciate that if other peoples are diligently reading all that he is producing as well as that of their own countries, while he limits his view to German scholarship, he will soon be at a hopeless disadvantage? As we see the German surgeons discussing points in the pathology and treatment of appendicitis that were long ago hackneyed to us; or read frightful tables of mortality from operative methods in tuberculous hip joint disease that American surgeons have happily forsaken for better measures, we appreciate that the teacher can never afford to neglect to watch the products of the pupil. And when a German reviewer[1] attempts to make a "zusammenfassendes Referat" of the work done on the subject of intestinal digestion without the slightest knowledge of the important contributions of Hill and of Kastle and Lovenhart, merely because they were printed in the English tongue, there is good ground for

1. Biochemisches Centralblatt, 1903, i, 169.

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feeling that we are by no means the chief losers because of the lack of German recognition.

An American writer recently took the trouble to write to a German scholar to inquire why he had omitted certain fundamental articles published in America, in reviewing the literature of a certain subject. More amusement than chagrin was elicited by the reply; for, in addition to stating with great complacency that he had not seen the articles in question because the journal containing them was not to be found in the small university town in which he resided, this German in a most benignant manner made the suggestion that if American scientists wished their papers read they should print them in German. It was with no little pleasure that the American in reply could quote figures as to the relative numbers of English-speaking and German-speaking people of the world, with a few additional remarks as to the importance of considering rate of growth in determining the status of any particular subject. The figures really made it seem that there were quite a few people who could read a paper published in English. We have recently heard much of Chauvinism in medicine as synonymous with what has also been termed the arrogance of provincialism. Is not Chauvinism likely to become a danger to that glorious German scholarship that has had no greater admirers or more eager followers than the American scientists?

It is pleasing to observe the occasional reverse of the above conditions, and to see that in some subjects, at least, we are appreciated. Rudolf Höber[2] quotes twenty-nine references in a review of the topic of the rôle of the neutral salts in protoplasmic activity, and of these twenty-one are by American and English writers, published partly in German and partly in English. This Anglo-Saxon predominance is, of course, attributable to the work of Loeb and his scholars, who have easily accomplished the greatest advances in this new field of biologic research. The custom followed by Loeb of publishing part of his work in Germany and part in America, would, if generally adopted, soon compel Germans to search in American publications, but we must insist that there is no particular obligation or need to show them what we are doing. Theirs must be the loss that is bound to fall on those who fail to appreciate that science is cosmopolitan and polyglot. We must also note that American publications are not alone overlooked; English work also seems to escape German eyes. French reviewers, on the other hand, as a rule, cover our publications much more thoroughly, and the admirable abstract department of certain French journals gives ample consideration of all the leading American journals. With our many magazines of medical science overwhelmed with articles reporting actual research we may hope the terse German summary of "Nichts neues" that has so often appeared under an American title, will soon disappear. To the justice of the use of this summary in so many instances hitherto we must attribute, in all honesty, much of the present German oversight, but at the same time we insist that the need for its use is passing. We are doing much work that is "Etwas neues," not to mention "einwandsfrei."

2. Biochemisches Centralblatt, 1903, i, 497.

THE FROUDE-CARLYLE CONTROVERSY.

As the Froude-Carlyle controversy has taken a medical turn, it will not be out of place to refer to the matter in these columns. It will be remembered that about twenty years ago Froude, in editing Carlyle's reminiscences and letters, made Carlyle appear as a cruel and inconsiderate husband and his wife as a martyr, at least it so appeared to one side in this controversy. The whole question once so earnestly discussed has again been brought before the public by the appearance of a series of letters of Mrs. Carlyle.[1] Not the least interesting part of these two volumes is the long introduction by a well-known London medical man, Sir James Crichton-Browne. With wonderfully vigorous English he defends Carlyle against the charges of cruelty and neglect, and denounces Froude as an incompetent editor who was not only careless, but who maliciously misrepresents in order to prove his point, viz., that Mrs. Carlyle was abused. These new letters strongly supported Sir Crichton-Browne's contention.

But the matter did not rest here. Goaded by the stinging words of Crichton-Browne and the editor, Alexander Carlyle, son of Thomas, Froude's relatives have now published a pamphlet written by Froude and found among his papers.[2] In this Froude directly charges the antagonism to his editorship to the fact that the Carlyle relatives felt that they, and not he, should reap the financial reward arising from the publishing of the Carlyle papers. But more than this, he declares that the true cause of the unhappy home life of the Carlyles was its lack of children, and that for this Carlyle was to blame. In a word, Carlyle was impotent. To this charge Sir James Crichton-Browne replies, and very appropriately in the pages of a medical journal,[3] by declaring that the cause of the childlessness lay probably in Mrs. Carlyle. She was, he believes, sterile. He shows by well-chosen argument, some of it amounting to proof, that Carlyle was not unfit physically to be a husband. To any one who will read the letters of the first few years of their married life it will seem incredible that their relations were merely those of "companions." We omit the details of the pamphlet and of Crichton-Browne's rejoinder. It is truly shocking to think of this dissection of one's home life and of a public discussion of the most intimate marital relations. It is disgusting. As the *London Times* has said, what the Froude relatives have done "is a serious offense against reverence for the dead, if not against decency and decorum."

1. New Letters and Memorials of Jane Welsh Carlyle, London and New York, 1903.
2. Froude: My Relations with Carlyle, London and New York, 1903.
3. British Medical Journal, June 27, 1903.

We prefer to look upon the Carlyle household as not angelic but as human. Two strong-minded individuals, their marriage unfortunately unblessed by children, living under the same roof for twenty-four hours of the day —for the home was also Carlyle's place of business, his literary workshop—both sufferers from physical ailments, both of strong likes and dislikes, is it any wonder that there were occasional storms? Carlyle growled and his wife snapped back. The course of true love evidently did not run smooth in the Carlyle family. And the ill health of this couple may explain much of the apparent unhappiness.

Carlyle was a dyspeptic, or perhaps had eye-strain, as Dr. Gould contends. At any rate he had headaches and felt out of sorts at times. Mrs. Carlyle was a neurotic, as her mother had been before her. In fact she and her mother got along very poorly when they were together. Mrs. Carlyle had severe sick headaches, "such headaches I never witnessed in my life," writes her husband. She was a neurasthenic. She dosed with all kinds of drugs and took freely of opiates for the relief of pain. Carlyle says: "When any new miraculous kind of doctor was recommended as such my poor, struggling martyr, conscious, too, of grasping at mere straws, could not but wish to see him; and he came, did his mischief and went away."[4] Even "magnetizers" were tried.

Physicians are familiar with this type of woman and oftentimes our sympathy is fully as much with the enduring husband as with the suffering wife. For ten years, according to Sir James Crichton-Browne, Mrs. Carlyle suffered from a climacteric melancholia. Unnecessarily suspicious, morbidly sensitive, racked with physical pain, often under the influence of opiates, her mind, as shown by her letters and by her journal, was lacking in that cool judgment that is found in one well balanced. This was not, as Froude would have us think, all the result of ill treatment by her husband.

The whole controversy has been, to say the least, unfortunate. Especially is this true of the discussion concerning the barrenness of the marriage. The indecency of it all sets the tongues of the prurient wagging and fills the columns of the yellow journals. Altogether, it leaves a bad taste in the mouth.

4. Reminiscences, N. Y., 1881, p. 481.

"KOCH CONSUMPTION CURE" AND NEWSPAPER ADVERTISING.

Some time ago[1] we commented on an exposé by a magazine of the so-called Koch consumption cure concern. Recently the matter has been taken up by the health department and by the physicians of New York City, and the District Attorney, it is understood, has in his possession sufficient information to warrant him in proceeding against the concern, so it looks as if it would soon be in the toils of the law. The health department has issued a statement warning the public against it, and states that the head of the institution is not registered, and has no authority to practice in New York State. The representative of this concern is variously known as Dr. Philip Koch, Dr. Edward Koch, etc., and to avoid the embarrassments arising from violation of the state laws regulating medical practice he is kept moving from one part of the country to another. He is generally in the background after his arrival in a place, and can not be inveigled by strangers to examine them or to receive fees. He is reported to have graduated from the Missouri Medical College in 1881. We are informed that the company is incorporated with a capital of $125,000, that its president is Dr. Wallace Cleveland Clark of 150 Nassau street, New York, and that the manager of the New York branch is Dr. Frank Bigelow, who receives a salary of $80 per week, while his assistant, Dr. Jordan, receives $40 per week. The published correspondence from the concern makes instructive but melancholy reading. Some idea of the immense profits may be formed from Dr. Bigelow's statement that in the month of June, while a poor one, they took in at the New York branch alone $3,500. A part of the testimony taken before Judge Lacombe of New York is stated to show that the magic fluid called "Koch's Inhalation Fluid, or Tuberculine," which costs $10 per month to have it "strengthened," is simply a petroleum oil, colored reddish. Sometimes it is scented with oil of thyme, with oil of eucalyptus or with oil of cinnamon.

While this institution is before the public eye at the present time, it must not be forgotten that it is only one of many such concerns that are using the sick and afflicted as their dupes. There can hardly be imagined anything more base than that of a man deliberately making a business of swindling by fraudulent promises to cure those who are suffering from incurable diseases. Nevertheless there are scores of such individuals and concerns getting rich by like nefarious and execrable practice. One of the most discouraging things is that nearly all of our reputable newspapers are openly endorsing this inhuman business, their columns are defiled by the indecent and vicious advertisements of harmful medical nostrums, and of pure swindles gotten up solely for the purpose of getting the money of the unfortunates whose condition makes them ready to grasp at every straw that offers relief. It is a pity that respectable and influential newspapers should lend themselves to help such frauds just for the few dollars that come from carrying such advertisements. The evil is one that has long existed, but that is no reason why it should continue.

1. THE JOURNAL A. M. A., May 9, p. 1295, Vol. xl.

THE DANGER FROM BACTERIOLOGISTS.

A correspondent of our contemporary, the *Cincinnati Lancet-Clinic*, says that it is strongly suspected throughout continental Europe that some bacteriologic laboratory is manufacturing poisons to sell to designing persons at high prices. Such things are possible. It would be easy for one thoroughly accomplished in bacteriologic work, and likewise imbued with the "devilishness" of

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commercialism, to start this kind of a manufactory regardless of consequences. The threat of the Macedonian insurgents to introduce plague into Turkish cities is probably a mere *brutum fulmen*, and their giving away of the plans has disarmed them to a great extent, but it is not difficult to conceive of the mischief that might arise should such plotters act before telling. The danger is one that may yet have to be met, although we need not lie awake nights worrying about it. As long as bacteriologic laboratories are in the hands of high class medical men, the danger is *nil*, but, of course, there is no assurance that others impelled by sinister motives could not take up the work, and no reason why they could not be successful in doing an incalculable amount of harm. But there is no need to fret about it until there is more cause than is apparent now, at least in this country.

DANGER FROM ETHER IGNITION.

The danger of ignition of ether vapor is well known to the profession and due precautions are usually taken against it. In one of our contemporaries, noticed in our last issue,[1] appears an account of a new source of this danger which could not have been ordinarily anticipated. Dr. Dwight H. Murray reports to the *New York Medical Journal* the ignition of ether vapor during an operation by the sudden turning on of an electric bulb light by the anesthetist. How this happened it is hard to say, though his theory is that it must have been due to some action of the electric spark, leakage, we might say, that was sufficient to inflame the combustible gas. That such instances are rare is, of course, self-evident. The fact that the surgeon in question experimented a number of times to reproduce the condition without success leaves a little doubt in our minds as to the actual occurrence of the facts as they appeared to him. It also, however, leaves an uncomfortable little doubt as to the safety of using even electric lights in the presence of ether vapor. Anesthetists will doubtless take heed to this unique experience and govern themselves accordingly.

SYPHILIS AND SUICIDE.

In a recent article Fournier discusses the connection of suicide with syphilis. He has had in the course of his observation some eighteen cases of suicide in syphilitics, in all of which the disease seemed to have a direct connection with the act. He has known of eight cases of suicide on account of the disfigurement, either from syphilitic lesions or some trifling lesion which the subject regarded as a sign of worse to follow or mistook for syphilis. The mental condition of those suddenly learning of the infection may lead to what might almost be called a reflex suicide. Fournier says that he has more than a hundred times seen strong men turn pale, sink down, and sometimes even lose consciousness from shock when told that they had the disease, and this in subjects otherwise unimpressionable and intrepid in danger. It is his experience that women display much more equanimity in regard to the disease than do men; it has a less mental effect on them when acquired. He strongly condemns brutal declarations of their condition to the patients; the announcement should be guarded and gradually led up to; doubt should be expressed at the first or second examination, and if the patient is informed of his condition it should be followed by the statement that it is not severe, and that it is controllable, if not curable. In case of intending marriage, however, the physician's duty is imperative.

1. THE JOURNAL A. M. A., July 11, p. 131.

IMMUNIZATION AGAINST TUBERCULOSIS.

The rather remarkable address of Maragliano on "The Struggle and Immunization of the Organism Against Tuberculosis" at the Madrid Congress has been noted in abstract in this journal.[1] It has also been republished[2] in this country, and has excited more or less public attention. The lay press has taken the subject up and discussed it with its usual mixture of lucidity and misunderstanding. Naturally, the statement that an investigator has obtained a vaccine which will produce immunity in the human subject against tuberculosis is a stirring one, and especially since at the present time the public generally, and we might also say many physicians, have a rather exaggerated idea of the importance and fatality of this disease. Those who have prophesied the eradication of tuberculosis will take up these statements and see in them a forecast of results they have predicted. It seems to us, however, that we may overestimate the importance of these announcements, and that it is worth while to at least accept them with some reservation until further experimentation and clinical experience have more fully verified them. The disputed questions in regard to tuberculosis are not a few, and this one of human immunization to the disease may yet take its place among the more important ones like Koch's announcement of the non-intertransmission of bovine and human tuberculosis. If Maragliano is right in his assertion that the ingestion of milk and flesh of tuberculous animals produces immunity, a large proportion of the civilized population of the world must have acquired it by this time. Moreover, if a single attack of surgical tuberculosis produces immunity against the disease in all its forms, the number of immune must also, for this reason, be very large. It has been an accepted belief, based on what are supposed to be clinical facts, that old tubercular foci might be revived, and that they are consequently a source of danger in those who possess them. Certain able pathologists declare that with careful examination nearly every autopsy will reveal some traces of former tuberculosis. This would indicate that while no one was originally immune, everybody had a chance and ought to become so, by action of tuberculous attacks, if Maragliano's theory is correct. On the whole, it seems to us worth while to continue to believe that while a certain degree of immunity is probable, and while there may be a certain basis of fact for Professor Maragliano's theories, yet it will not do to accept them too freely or attempt to make them universally applicable.

1. THE JOURNAL A. M. A., July 4, p. 67.
2. Medical News, July 4.

PRELIMINARY EDUCATION FOR NURSES ENTERING TRAINING SCHOOLS.

Of the utility of the trained nurse there is no longer any ground for discussion. From having originally been

a luxury, to be availed of only by the wealthy few, she has become an every-day necessity, whose services are in constant demand among all classes of the community. In the process of evolution, the requirements of a good nurse have been gradually increased, and for the fulfillment of these the courses of study have necessarily been lengthened, and the character of instruction has been correspondingly modified. Training in the mere practice of nursing can no longer be considered sufficient, but a thorough grounding in the principles of the work has come to be looked on as an important prerequisite. Like the medical student, so the pupil-nurse should come equipped for her pursuit with special as well as general educational qualifications. A plea upon these lines has recently been made by Dr. Francis P. Denny,[1] and to meet the present need he lays down the following urgent requirements: 1. Leisure for study. 2. Instruction in the principles of nursing before beginning practical work. 3. Instruction by those especially fitted to teach. 4. Improved methods of instruction. That this need has been appreciated, in part at least, by others, and that steps have already been taken to provide the remedy is shown by the announcement of the Drexel Institute of Philadelphia for 1903-04 that at the solicitation of Dr. S. Weir Mitchell and the superintendents of the leading nurses' training schools of Philadelphia, the Drexel Institute has undertaken to organize a preparatory course of instruction for such training schools, including the subjects of anatomy and physiology, medical chemistry, materia medica, hygiene, bacteriology, domestic science and economics, as well as English language, vocal expression and physical training. The course occupies about thirty-six weeks, and is divided into two terms. Certificates will be issued to those who complete the full course and pass the required examination. It is possible that work of a like character has been undertaken elsewhere, but it seems worth while to make a record of the beginning of a movement whose influence is likely to be most useful and far-reaching. Further, the experience gained from this work may serve as a guide to others engaged in other places in similar work. It is fitting that grateful acknowledgment be made of the part taken in the movement by Dr. S. Weir Mitchell, who has always exhibited the greatest interest in nursing and nurses, and who has in many ways done so much for the uplifting of his profession.

Medical News.

ILLINOIS.

Personal.—Dr. and Mrs. Jacob Schenck, Mount Carmel, started July 4 for a four months' trip abroad.——Dr. Edward H. Thomas, Augusta, has resigned as trustee for the Illinois Hospital for the Incurable Insane.

Bartonville Cottage Contracts Let.—The board of trustees of the Illinois Hospital for the Incurable Insane, Bartonville, has awarded the contract for the erection of eight cottages to a Peoria contractor whose bid was $23,000 higher than the lowest bid made.

Hospital Additions Delayed.—The buildings which the Cook County Board of Commissioners propose erecting this summer at the County Hospital and the Dunning institutions have been delayed because the commissioners can find no purchaser for bonds at 3½ per cent.

Cornerstone Laid.—The cornerstone of Logan Hall, a building to be used for school rooms, gymnasium and dormitories for children under 10 years of age, was laid at the Beverly Farm Home and School for Nervous and Backward Children, Godfrey, to-day. The building will cost about $5,000, and will increase the capacity of the institution to 50.

Chicago.

A Polylingual Medical Dictionary Under Way.—Dr. Karl von Klein of Chicago is compiling a medical dictionary which aims to include all medical terms in every language.

Personal.—Dr. E. C. Dudley has been re-appointed a member of the board of education.——Dr. Albert C. Eyclesheimer, assistant to the chair of anatomy at the University of Chicago, has resigned to accept the professorship of anatomy in the University of St. Louis.

Illinois Medical College Changes.—Drs. J. F. Presnell, late surgeon U. S. V., and Frank Byrnes, have been elected junior professors of surgery. Dr. William F. Waugh has severed his connection with the college. The college has completed its new buildings, one of which is devoted to anatomical laboratories and the other is to be used as a training school for nurses.

Same Mortality.—The total of 563 deaths recorded by the bureau of vital statistics for the week ended July 11 was precisely the same as that of the previous week. Among these were 26 from sunstroke, and, as other direct results of high temperature, an increase of 38 deaths from the acute intestinal diseases, "convulsions" and the nervous diseases. Only 7 deaths were reported from typhoid fever, as compared with 11 during the week before.

MARYLAND.

Bequests.—By her will the late Mrs. Harriet Lane Johnston, Baltimore, bequeathed $90,000 for three free scholarships for the Johns Hopkins University, $1,500 to the National Homeopathic Hospital, $2,000 to the Church Home and Infirmary, and a reversionary amount for the Home for Invalid Children.

Personal.—Dr. John T. King sailed for Antwerp, July 11.——Dr. Joseph T. Hering of Westminster has been commissioned assistant surgeon of the First Maryland Regiment, now in camp at Belair.——Drs. Clinton Cushing of Washington, J. C. Jones of St. Louis, E. P. Quain of Bismarck, N. D., sailed from Baltimore for Bremen, July 8.

Contracts Let.—The contract for the erection of the new building for epileptic patients at the State Hospital for the Insane, No. 2, Sykesville, Md., has been awarded at $25,590. It will be of two stories, and of brick and terra cotta, 200 feet long, 50 feet wide in the center, and 25 feet wide in each wing. There will be accommodations for 100 persons, and 12 private rooms. The digging of the foundation has already been nearly completed, largely the work of the patients. The hospital is so crowded that the workshop has to be used for some patients.

Chair of History of Medicine.—A professorship of the history of medicine has been instituted at the University of Maryland School of Medicine. This is the first instance in which there has been a full professorship to this branch in any American school or university, although lectures have been delivered on it at a few institutions. The Johns Hopkins Medical School has a society specially devoted to it, and a small number of lectures are delivered there annually by Dr. John S. Billings. Some lectures are also delivered in Albany, St. Louis and Buffalo.

NEW YORK.

Bequest to Hospital.—The Buffalo General Hospital will become the recipient of $100,000 by the will of Mrs. Agnes Ethel Tracy.

State Examinations.—The June state examination for medical license, at Syracuse, was taken by about one hundred candidates.

Buffalo Personals.—Dr. Roswell Park, who has been ill with erysipelas, is much improved.——Dr. Marcel Hartwig is ill and confined to his home.——Dr. F. Park Lewis has been appointed chairman of the commission to investigate the condition of the adult blind in the state of New York.

Over Seas.—Dr. Lawrence Hendee, Ithaca, sailed, July 7, for Europe, where he will spend a year in study.——Dr. Montgomery A. Crockett, Buffalo, is spending three months in Hamburg, studying general surgery.——Dr. Frank A. Carr, Buffalo, has returned from abroad.——Dr. James W. Charters, Buffalo, recently sailed for a tour in Europe.

1. Boston Medical and Surgical Reporter, June 18, 1903, p. 657; see THE JOURNAL for July 4, 1903, ¶12, p. 56.

New York City.

A Large Estate.—Dr. Christopher M. Bell, who died in Baden Baden last year, left an estate of $2,667,000, all in personal property, according to the official appraisal just completed.

Convalescent Hospital.—On July 1 the Commissioner of Charities opened a hospital for convalescents on the north end of Blackwell's Island. There are at present accommodations for 40 men and 30 women, which will eventually be increased to 70 and 60 respectively. Ordinarily the patients will not be kept longer than three weeks.

Vital Statistics.—For the first six months of 1903 there were reported 34,855 deaths, as against 35,491 for the same period last year, giving a death rate this year of 18.67 per 1,000 as compared with a rate of 19.54 for the first six months of 1902. There is an increase of 6,000 in the number of reported births for this period, which is probably to be explained by the more strict enforcement of the law requiring the reporting of births by midwives and physicians.

OHIO.

Many Pass Examiners.—At the examination recently held, 85 applicants passed.

Smallpox in Jail.—Smallpox is reported to have developed among thirteen prisoners in the Mercer County jail.

College Consolidation.—The Miami and Laura-Memorial Woman's Medical colleges of Cincinnati have consolidated.

To Raise Curriculum.—The State Board of Medical Registration and Examination on July 8 assigned the work of deciding on a curriculum for medical schools in Ohio to a committee, consisting of Drs. Edward J. Wilson, Columbus; August Ravogli, Cincinnati; Harris H. Baxter, Cleveland, and Leo F. Towers, Toledo.

Physicians Injured.—Drs. Schuyler S. Tuttle and Richard J. Morgan, Van Wert, while journeying to Indianapolis in an automobile, ran into an open bridge and fell fifteen feet. Dr. Morgan sustained a fracture of the left thigh and patella, and of the right leg at the ankle. Dr. Tuttle fell on his head, producing a concussion of the brain from which he will recover.

Board of Appeals.—The board of appeals from decisions of the State Board of Medical Examination and Registration has sustained the decision of the board in revoking the license of Dr. Norman M. Geer, Cleveland, for gross immorality, and has reversed the decision in the matter of the revocation of the certificate of Dr. Charles F. Cookes, Columbus, charged with having performed a criminal operation, but never brought to trial.

PENNSYLVANIA.

Hospital Opens.—The Shope Hospital, Harrisburg, was formally opened July 2.

Many Candidates.—In the last week in June, 391 candidates took examinations for licenses to practice medicine, 246 in Philadelphia and 145 in Pittsburg.

Frankford Hospital Opened.—Frankford Hospital was formally opened July 4. Two physicians will be in constant residence, and, for the time being, three nurses.

Personal.—General orders announce the appointment of Dr. Sarden McClure of Philadelphia as assistant surgeon of the First Regiment, N. G., P.——The governor has appointed as a member of the State Board of Health, Dr. Charles E. Harvey, Philadelphia; as a member of the State Quarantine Board, Dr. J. L. Forwood, Chester.

Sanatorium Settlement.—Dr. J. T. Rothrock, state forestry commissioner, has contracted for the erection, on the state reservation near Waynesboro, of an assembly hall and six cottages at the White Pine Sanatorium which the state has established for tuberculosis. It is the purpose to establish a complete sanatorium settlement.

To Test Eyes.—Henry Phipps, Jr., has sent $350 to the First Ward Manual Training School, Allegheny, with a suggestion that the money be used in the examination of the eyes of the school children. He will add to his contribution a sufficient amount to secure treatment and the procuring of glasses for those who are found to need them.

Tour of Inspection.—On July 11 Governor Pennypacker, in company with state and city officials, including representatives of the state quarantine and state and city health boards, made, on a tug boat, an inspection of the Delaware River water front and of the Marcus Hook Quarantine Station. Of the party were Dr. R. A. Cleeman, president of the State Quarantine Board; Dr. Benjamin Lee, secretary of the State Board of Health; Dr. J. L. Forwood, member of the board, and City Health Officer Charles H. Heustis. The visitors were entertained at luncheon by Quarantine Physician Henry D. Heller.

Philadelphia.

Preparatory Course for Nurses.—The Drexel Institute of Art, Science and Industry, Philadelphia, has instituted a department for the preparatory instruction of nurses.

Personal.—Dr. Richard M. Pearce has been made adjunct professor of pathology and bacteriology in Albany Medical College and director of the Bender Hygiene Laboratory, vice Dr. George Blumer.——Drs. Charles B. Penrose and George A. Piersol have been appointed members of the Board of Health, vice two laymen, resigned.——Dr. Andrew J. Downes has returned from Europe.

Fourth of July Tetanus.—For the week following the Fourth of July, at least five died of tetanus, and others were reported in a critical condition from the disease. Three of the deaths were directly traceable to injury by toy pistols. The dealers who sold the pistols have been summoned to answer in court; an act of the assembly makes it a misdemeanor to sell pistols to children under fourteen.

Appointed to Professorship.—Allen J. Smith, professor of pathology and dean of the medical department of the University of Texas, has been elected to the chair of pathology in the University of Pennsylvania. The latter was made vacant by the resignation of Dr. Simon Flexner, who takes charge of the Rockefeller Institute in New York City. Dr. Smith was graduated from the University of Pennsylvania in 1886. He was for several years demonstrator of pathology in his alma mater.

Pure Food Crusade.—The crusade against impure foodstuffs made by Food Commissioner Warren, is bearing fruit. At the invitation of the Philadelphia Pork Packers' Association the food commissioner and Secretary of the Board of Agriculture Critchfield recently met representatives of the association to consider the question of impure lard. Several dealers have lately been fined for dealing in spurious lard. The packers promised the aid of their association to the commission and board of agriculture.

A Cold June.—The month of June was the coldest in Philadelphia ever recorded by the weather bureau. The average temperature was one and a half degrees lower than the coldest previous June, 1881. The minimum temperature was 51 degrees, the maximum 84 degrees. In marked contrast have been the conditions for the week of July ending the 11th. Throughout much of the days the thermometer has ranged in the 90's and the humidity has been great. As a result, there have been many cases of heat prostration, not a few proving fatal.

Improvement Hoped For.—Dr. Martin, the new director of the Department of Health and Charities, by his activity since assuming the duties of the office, has inspired a belief that the hygienic and sanitary affairs of the city are to have a much-needed improvement. Among essential innovations Dr. Martin advocates a modern system for the disposal of sewage, probably its evaporation and conversion into fertilizer; also the systematic medical inspection and examination of public school children and of public school buildings. This may be done by the regular medical inspectors of the bureau of health, or by a special corps to be appointed.

Bequests.—Among bequests awarded in adjudicating the estate of the late Owen Lamb, are the following: St. Joseph's Hospital, $500; St. Mary's Hospital, $15,734.——The following are some of the many charitable bequests made by the late Mary M. Johnson: Pennsylvania Hospital; Insane Department of Pennsylvania Hospital, for free beds; Asylum for the Relief of Persons Deprived of the Use of Their Reason; University Hospital; and Woman's Hospital, all of Philadelphia, $10,000 each; Pennsylvania Training School for Feeble-Minded Children, and Orthopedic Hospital, $5,000 each; Philadelphia Home for Incurables, $2,000, and Children's Seashore House, Atlantic City, $5,000.

Hospital Plans Stopped.—Progress in the plans for an institution in the Forty-second ward for a city almshouse and hospital for the insane, has been stopped by the department of health. An ordinance passed in the recent administration provided for the removal of this institution to said site, near the House of Correction, the land there owned by the city being about 100 available acres. The present officials regard the site as being entirely too small; they favor the separation of the almshouse from the immediate vicinity of the hospital for the

insane, and the provision of large tracts of land for each institution whereby both may be largely self-sustaining, and where the insane may be treated in accord with modern methods. Plans are for the present held in abeyance.

Smallpox Persists.—Not only does smallpox persist in the city, but despite the warm weather and the efforts of the health authorities, seems even on the increase. For the week ended July 11, 39 new cases and 10 deaths were reported, the largest number for many weeks. The condition is so serious as to lead the department of health to renewed efforts to stamp out the disease. Vaccination, supplemented by fumigation and quarantine, is considered the one weapon of attack. Letters have been sent by the department to hospital officials asking them to refuse to admit patients who have not been successfully vaccinated within five years. Letters have also been sent to employers, asking a similar requirement of their employes, the department offering to send physicians to do free vaccination. The public has thus far failed to be aroused to a sense of the gravity of the situation, or of the necessity for general vaccination. A sentiment is gaining for compulsory vaccination. A corps of physicians have been doing house-to-house vaccination in the infected district. House inspection is being done, nuisances are to be abated, streets and alleys flushed, and garbage removed.

TENNESSEE.

Addition to Hospital.—The Presbyterian Home Hospital, Memphis, will erect an addition to the present building, to cost $12,000.

State Medical Directory.—Dr. T. J. Happel, Trenton, secretary of the State Board of Medical Examiners, is preparing a directory of all legally qualified physicians in Tennessee.

Personal.—Dr. William B. Malone, Memphis, has been appointed major and surgeon, and Dr. I. Lucius McGhee, Memphis, captain and assistant surgeon in the National Guard and assigned to the Second Infantry.——Dr. Samuel S. Briggs has been elected professor of anatomy, and Dr. George C. Savage, secretary of the faculty of the medical department of Vanderbilt University, Nashville.

State Anatomical Board Appointed.—The governor has appointed a board consisting of Drs. Samuel S. Briggs, Paul F. Eve, John S. Cain, Richard A. Barr, William G. Ewing of Nashville; Dr. William B. Rogers, Memphis; Dr. Walter S. Nash, Knoxville, and Dr. Edward A. Cobleigh, Chattanooga, to receive and dispose of the unclaimed bodies of persons who die in charitable and penal institutions in cities of over 40,000 population. The appointments are made on recommendation of the various colleges.

CANADA.

Brandon General Hospital.—The Brandon (Manitoba) General Hospital is to be increased by an addition which will cost $18,000 and accommodate 32 beds.

St. John, N. B., Vital Statistics.—For the first six months of 1903 there were 569 births, 457 deaths and 207 marriages in the city and county of St. John, N. B.

Royal Jubilee Hospital, Victoria, B.C.—The total number of in-patients treated during the past year in the above institution was 784; the total number of out-patients 163, as against last year, in-patients, 782; out-patients, 122. The cost of maintenance during the year was $31,831.17, while the daily cost per patient was $1.80.

New Hospital for Vancouver.—The sum of $30,000 has been subscribed for a new general hospital by the citizens of Vancouver, B. C. The city has contributed $20,000, and as a result the provincial government now announces that it will contribute $20,000 additional. A building will be erected capable of accommodating 100 patients, and so arranged that it can be enlarged at any time to provide for at least 300 patients.

Prince Edward Island Hospital.—The annual report of the Prince Edward Island Hospital shows that there were admitted during the past year to that institution 243 patients, 7 more than for the previous year. The paying patients numbered 165. The medical cases were 70, surgical 173, and 131 underwent operation. There were 183 patients discharged cured, while the deaths numbered 8, as compared with 2 during the previous year. There remained in the hospital on May 23, 16 patients. The out-patients numbered 38.

Judgment in an Eddyite Case.—The practice of Eddyism in Ontario has received a severe set-back at the hands of the Ontario Court of Appeals in the judgment delivered by that court in the case of the King against a citizen of Toronto who permitted his boy, aged 16, to die of diphtheria without providing him with necessary medical treatment. At the first trial the jury had found the prisoner guilty of manslaughter and the defendant's counsel had taken the case to the Court of Appeals. The decision of the Court of Appeals states clearly that they think that the learned judge at the first trial did properly charge the jury that the term "necessaries of life," as appears in the criminal code, includes medicine and medical treatment.

Anti-Vaccination Bill Killed.—One of the members of the Ontario legislature had before that body during the past session an anti-vaccination bill, the object of which was to remove the compulsory clause of the Public Health Act. In aid of this the legislator presented a petition signed by 1271 residents of Galt, Ont., which town had just passed through a smallpox epidemic, in favor of the bill. Dr. Reaume, a member of the legislature from Western Ontario, strongly opposed this measure and said that he had been vaccinating for 20 years, and had yet to see the first evil result. As only one or two members at the outside were in favor of the legislation the bill never saw more than its second reading.

Montreal Anti-Tuberculosis League.—A meeting of the investigation committee was held last week, presided over by Dr. Roddick, M.P. Dr. Harding, Montreal, was appointed to act as permanent secretary to the committee. A number of physicians representing the different departments of the various city hospitals and dispensaries were present and discussed with the committee the co-operation of these institutions with the league. Each and all reported that the several hospitals and dispensaries of Montreal were willing and glad to co-operate with the league in reporting cases of consumption that came under their notice. Arrangements were made by which each hospital will fully report the tuberculous cases which come under its care. This will greatly aid the league in its efforts to obtain information and give it greater opportunities in trying to stamp out tuberculosis in that city.

FOREIGN.

Damages for Venereal Infection.—The Munich courts have condemned to five months' imprisonment a postoffice employe who had established intimate intercourse with a chambermaid of good character ("ein unbescholtenes Zimmermädchen"), although he knew that he was suffering from an uncured venereal disease.

Sanatoria for the Madeira Islands.—Our German exchanges announce that the Portuguese government has granted permission to the Prince von Hohenlohe to erect the sanatoria on the Madeira islands which he has been projecting. Work will be begun at once and the government will grant certain concessions and privileges in order that the buildings may have the most favorable location and surroundings.

Organization of the Profession in Switzerland.—There is rejoicing in Switzerland over the realization of the long cherished hope of united organization of the medical profession. The general meeting held at Lausanne, June 12-14, was attended by 350 members and delegates from all parts of the country, instead of, as heretofore, each part of the country holding its separate meeting. Besides the usual excursions and clinics by prominent visitors, a number of scientific articles were read, among them one by Kocher on "Treatment of Goiter"; by His on "Articular Rheumatism," and by Bard on the "Importance of Laboratory Research for Practical Medicine."

Recent Decisions of the German Medical Court of Honor.—Among the recent decisions is one that designates as unworthy of a physician the announcement of a new remedy according to the mode of advertising addressed to the lay public, even of a remedy supposed to be of great benefit for the welfare of mankind. The court has also recently affirmed that every physician has a right to establish himself in any place he pleases. The fact that the medical practice at the place is only sufficient to support one physician does not affect this right from the standpoint of the official court of honor. In still another decision the court denounced deprociatory criticism of the testimony of another physician in a medicolegal affair. Going beyond the limits of criticism of the matter under discussion and rebuttal of the testimony of the experts on the other side, is likewise contrary to medical professional honor.

Suits Against Charlatans in Germany.—The drop curtain of the "Central Theater" in a large German City has served as the advertising medium for the charlatan Westphal, who announced on the curtain that he guaranteed a cure for the so-called incurable diseases. In the lay press he has also been publishing that a local magistrate had endorsed from the bench the value of his curative methods. The latter had merely

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stated in a previous suit that the defendant might possibly have accomplished a cure in certain isolated cases, but that his claim to cure all diseases was preposterous. Westphal sought to evade the law also by arguing that the use of the term "so-called" incurable did not include the actually incurable. He was condemned to a fine of $50 for the use of the magistrate's name. Another charlatan has been recently condemned to six weeks in prison for personal injury from his practices in a certain case.

LONDON LETTER.

Acute Recurrent Hydronephrosis.

At the Clinical Society of Manchester Dr. Arnold W. W. Lea read a paper based on four cases treated by operation. The condition is marked by recurrent attacks of acute abdominal pain with severe constitutional disturbance, and is associated with rapid swelling of the kidney and temporary hydronephrosis. It may be found with mobile kidney, but extreme mobility may exist without any hydronephrosis. Mr. Bruce Clarke in 1893 described this condition as "acute renal dislocation," the kidney slipping down below the costal margin. In the cases described by Dr. Lea reduction of the kidney, even under an anesthetic, was impossible owing to the greatly increased size of the organ. The cause of the condition was temporary ureteral obstruction. Slight degrees of ureteral obstruction are common in mobile kidney, producing some hydronephrosis, but in the acute cases an additional element is introduced, namely, sudden kinking or torsion of the ureter. Valvular folds are frequently in the upper part of the ureter near the renal pelvis. Sometimes also strictures occur from various causes. Reference was made to an interesting paper by Bary of Paris, who had examined the ureter and renal pelvis of a large number of newly-born infants. Among 68 cases only 15 were found in which the ureter was absolutely normal; valvular folds, narrowings, and kinking or torsion to some extent were present in 31 cases. These arose in the wall of the ureter itself. The pelvis of the kidney also showed great variation in size and shape and the angle of insertion of the ureter might be vertical or horizontal. The form most liable to lead to hydronephrosis is a voluminous renal pelvis, with the ureter entering at an acute angle. Sudden strain or effort may then produce obstruction of the ureter and hydronephrosis. Other factors, such as congenital stenosis, valves, and twists, also conduce to the production of recurrent hydronephrosis, so that this condition is largely dependent on the disposition of the ureter and renal pelvis. In these cases slight descent of the kidney, not recognizable clinically, may lead to acute ureteral obstruction. The symptoms might be very severe. In one case the attack came on at frequent intervals without obvious cause, and was accompanied by intestinal obstruction due to displacement of or traction on the colon. A distinct tendency exists for the attack to occur just before the menstrual period. This occurred in two cases and may suggest a pelvic cause for the symptoms. The attack may last 3 to 5 days, and then within a few hours the kidney may return to the normal size and all the symptoms disappear. In the intervals the patients may be well, but they are usually neurasthenic and have constant aching in the loin. The diagnosis is easy if a definite tumor can be felt, but in the earlier stages of ureteral obstruction with dilation of the pelvis the symptoms may be very severe, even in the absence of any definite tumor. The treatment must be mainly surgical; palliative measures rarely effect a cure. The kidney must be exposed. In the great majority of cases nephrorrhaphy effects a permanent cure. In slight cases it is unnecessary to drain the renal pelvis; if, however, the kidney is hydronephrotic, the pelvis must be incised and a careful examination made of the upper end of the ureter. If no obstruction is found, the pelvis may be sutured and the kidney fixed. Nephrorrhaphy is carried out by Dr. Lea in all the cases; in three the pelvis of the kidney was opened, and in one it was thought advisable to drain for a few days. In each case a permanent cure was obtained. It is important not to delay operation too long, as otherwise the kidney may be irretrievably damaged. There is also a great tendency to development of pyonephrosis from ascending from the bladder, or possibly from adhesions forming between the colon and the perirenal tissues.

Trypanosomiasis in Africa.

Drs. J. E. Dutton and J. L. Todd of the trypanosoma expedition of the Liverpool School of Tropical Medicine have just returned to England from Senegal. They especially devoted their time to research work, with a view to determine the frequency, incidence and distribution of "trypanosomiasis" in the territory of the Gambia and the adjoining French colonies. They found that the disease occurs frequently in both Europeans and natives, and that it is distributed from the sea to the Upper Gambia. The disease is caused by a parasite, trypanosoma, very similar to that which engenders the "tse-tse fly disease." Besides the human disease in the Gambia there is, in addition, a species of "tse-tse fly disease" which attacks horses, and is the chief cause of the great mortality of horses in that country. The expedition reports a very important fact with regard to the health of the Gambia, namely, that the principal medical officer of that colony had officially announced that since Sir George Denton and his medical staff have organized mosquito destruction and similar sanitary measures in Bathurst there has been a most marked reduction in diseases of the malaria type, both in Europeans and natives.

The Care of Children's Teeth.

At the annual meetings of the British Dental Association, the president, Mr. Walter Harrison, in his opening address, said that he deplored the apathy shown in the dental condition of the young. There was anxiety on the part of parents of the upper and middle classes regarding the state of their children's teeth and the principals of schools also showed that they were not indifferent in this respect; but public bodies did not realize how absolutely necessary to the health was a perfect set of teeth. The association was in a position forcibly to demonstrate the necessity of a royal commission to inquire into the condition of the teeth of poor children.

Death of Mr. William Cadge.

One of the most famous of the provincial surgeons of England has passed away at the advanced age of 81, "Cadge of Norwich" as he was called throughout the medical world. His active work had long been finished and he was simply a connecting link with the past. In 1845 he passed his examination for membership of the College of Surgeons, and became Liston's assistant, with whom he worked until his death in 1847. He next became demonstrator of anatomy in University College and contributed the article "The Surgical Anatomy of the Head and Neck and Upper Limbs" to "Morton's Surgical Anatomy." In 1848 he obtained the Fellowship of the College of Surgeons, and in 1850 was appointed assistant surgeon to University College Hospital. In 1852 he returned to Norwich, where he had received his earliest medical education, and was appointed assistant surgeon to the Norfolk and Norwich Hospital. The great prevalence of urinary calculus in the district gave him an almost unique experience of the condition which he put to such excellent use as to establish a reputation throughout the world. He was not only a most expert lithotomist but a scientific investigator of the first rank. He attributed the striking absence of stone in the children of the well-to-do to the fact that they drank milk. On the other hand, he blamed the strong, sweet, new beer which the Norfolk peasants drink liberally. He was disposed to believe that the hard water of Norfolk favored the production of stone. He had great success with lateral lithotomy, and consequently valued the operation highly. In his Hunterian lectures delivered at the Royal College of Surgeons in 1886 he stated that he had performed lithotomy 169 times with 29 deaths. In the 29 fatal cases the average age was 60 and average weight of the stone 2 oz. For large stones he preferred the suprapubic method, especially for the hard uric acid stones of his native country. Though an experienced and expert lithotritist he would not admit the claim of many surgeons that lithotomy should be abandoned. In 1880 he was elected member of the council of the College of Surgeons, a post which he held for 16 years. He presented two munificent donations to his hospital, $50,000 in 1889, and the same sum again in 1899. He was married to a sister of the late Sir Richard Quain, who predeceased him and left no children.

Correspondence.

The Demise of the Philadelphia Medical Journal.

PHILADELPHIA, July 11, 1903.

To the Editor:—In your issue for July 11 there appears a letter from Dr. George M. Gould in which, as is usual with him, he undertakes to point morals. As a pointer of morals Dr. Gould has acquired that facility which comes from a contemplation of the sins of others rather than from a serious inspection of his own faults; and it is, therefore, wholesome and right that one of his friends should hold the mirror up to his gaze. As a

friend of the editor of *American Medicine*, and as the one who took the editorial chair after his enforced retirement from the *Philadelphia Medical Journal*, I greatly regret that Dr. Gould should have missed seeing the true significance in the passing of the latter journal while the former is still permitted to exist.

Those who are perfectly familiar with the inside history of the *Philadelphia Medical Journal* can trace its misfortunes to two main causes which existed at its very organization: 1. The selection of Dr. Gould for editor. 2. The permitting the stock to fall into the control of a newspaper publisher who failed to agree with Dr. Gould and forced his retirement. Between this upper and nether millstone the journal came near being torn to pieces, and it was only by the efforts of some physicians and laymen of the highest character that the journal was temporarily saved. It is a mistake on Dr. Gould's part, however, to suppose that the differences between himself and everyone else were entirely ethical, and that he was in the right and everyone else was in the wrong. The differences were not entirely ethical, but were largely temperamental and were such as grew out of the fact that some otherwise very worthy men were not able to get along with Dr. Gould. That "commercialism"—about which the editor of *American Medicine* talks with the ease of one perfectly familiar with it—was not the only or chief cause of difference between Dr. Gould and the majority stockholder, is amply proved by the fact that no sooner did he establish *American Medicine* than he adopted a commercial policy more flagrantly offensive to the ethical sense of the medical profession than was ever followed by the *Philadelphia Medical Journal*. In this respect, indeed, he proceeded to out-herod Herod.

The truth of this assertion is proved by a glance at the advertising pages of *American Medicine*. Proprietary nostrums are admitted to an extent that shows the dependence of the journal on its advertisers, and, worse than all, a special advertising department has been maintained in which Dr. Gould publishes puff articles of proprietary medicines printed in such a way as to look exactly like original articles. I know of no reputable journal in America that does such a thing as that. Neither does he disguise that he is responsible for the business as well as the editorial conduct of his journal. These things being so, if Dr. Gould has the slightest sense of humor, he must be getting more fun out of the situation than are some of his stockholders. According to an old monkish legend St. Denis, after he was beheaded, went about carrying his head in his hands. Dr. Gould emulates the example of this holy man. Ever since he was decapitated he has gone about exhibiting his disjointed head as though it were the casket of all the virtues. So far as learned at this writing, however, he has not yet paid 5 per cent. on his stock.

When I assumed editorial charge of the *Philadelphia Medical Journal* I found that all the virtues had not departed with the enforced retirement of Dr. Gould. On the board of trustees were such men as Dr. James Tyson, Dr. J. C. Wilson, Dr. William Thomson, Dr. E. Sajous, Dr. J. B. Roberts, Dr. J. H. Musser, Dr. H. Leffmann, Dr. W. Pepper, Jr., Dr. J. Neff, and Dr. Coplin; while among the friends of and contributors to the journal during the time I edited it, were such men as Professor Keen, Professor Osler, Professor Welch, Professor J. Wm. White, Dr. Louis Starr, Dr. Mills, Dr. Dercum, Dr. Sinkler, Dr. J. B. Deaver, Dr. Joseph Price, Dr. de Schweinitz, Dr. Randall, Dr. E. P. Davis, Dr. F. P. Henry, Dr. Frazier (dean of the University of Pennsylvania), Dr. Edward Martin, Drs. Dana, Starr, Sachs and Spitzka of New York, Dr. Putnam of Boston, and Dr. Jelliffe, editor of the *Medical News*. Surely among these names are to be found the names of some men who can be credited with an adherence to high ethical, literary and scientific standards!

The *Philadelphia Medical Journal* went out of existence "in the city of its birth" because the members of the editorial staff found that they could not control its policy against a small coterie of majority stockholders, and because they preferred to see it die rather than pursue a commercial policy, such as now characterizes Dr. Gould's journal. It is because Dr. Gould has failed to see the true moral of this tale, or the true handwriting on the wall, that I have thought it worth while to call his and the world's attention to it.

JAMES HENDRIE LLOYD.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

PORTA'S EXPERIMENTAL RESEARCH ON LIGATURE OF THE ARTERIES.

OGDEN, UTAH, July 7, 1903.

To the Editor:—Will you kindly inform me through THE JOURNAL, the nature and results of Porta's experiments on ligation of the aorta? I find references to them in several works, but none of them give any details. H. B. F.

ANS.—One of the gems in medical reference libraries is a handsome folio published in Italian at Milan in 1845 by L. Porta,* professor of surgery at Pavia. It contains 439 pages with a number of plates. In it he reports 600 experiments on 270 animals, including rabbits, dogs, sheep, goats, horses, asses and beeves, but principally on dogs, as he considered their physical organization as resembling most closely that of man. He reports the details of 113 experiments, undertaken to determine what becomes of a ligature left on an artery, and what changes are induced in the artery and in the circulation by ligature, single, double or over a cylinder, or torsion of an artery. He also reviews 600 operations undertaken on man at that date in which an artery had been ligated or twisted, studying closer the 49 cases in which gangrene occurred and the 30 deaths out of the 75 cases with hemorrhage. In his experiments he ligated the carotid, subclavian, brachial, femoral and abdominal aorta. Out of 60 animals on whom the latter artery was ligated, 7 survived, and Pirogoff had 2 survive out of 17. He speaks a good word for torsion of the artery in place of ligation for the treatment of wounds of medium sized arteries. He applied it in 18 clinical cases, generally after amputations, etc., on the basis of the results of 60 experiments on large animals in which hemorrhage occurred in only 11. He found it simple, easy and certain for the majority of his cases of wounds of the carotid, subclavian and femoral arteries, twisting them six or seven times on their axis.

GRATUITOUS SERVICES TO A PHYSICIAN.

NEW YORK, N. Y., July 9, 1903.

To the Editor:—Will you kindly advise me in this matter? Dr. A. is suddenly taken very ill, so that he can not choose his medical aid. His family under great nervous strain call in the first physician found at home, Dr. B., who does not know Dr. A. personally. He treats Dr. A., and makes two calls altogether. A few days later Dr. B. sends a bill "for services rendered to son" to Dr. A.'s father. How is Dr. A. to behave in the case? L. H.

ANS.—Article II, Chapter 2, of the Principles of Medical Ethics of the American Medical Association says:

"All practicing physicians and their immediate family dependents are entitled to the gratuitous services of any one or more of the physicians residing near them."

Were we in Dr. A.'s place we should first pay the bill rendered by Dr. B. and then send him a copy of the Principles of Medical Ethics of the American Medical Association with the above paragraph marked in blue pencil.

SOLUTION OF NITRATE OF SILVER.

TOLEDO, OHIO, July 3, 1903.

To the Editor:—I noticed in THE JOURNAL an editorial on Fourth of July injuries in which bichlorid, 1 to 1000, is advised as a cleansing solution. Pepper's Practice says silver nitrate, 1 to 1000, destroys germs in five minutes. Can you tell me whether this silver solution is generally looked on as efficient? J. L. T.

ANS.—A solution of nitrate of silver, 1 to 1000, is an efficient germicide, but not applicable as a general irrigating fluid.

Miscellany.

Removal of Birth-Marks.—Dr. L. L. McArthur described, at a meeting of the Chicago Surgical Society, a method which he believes to be new for the eradication of vascular blemishes of the integument. As the red color of these marks is due to capillary dilatation, it is necessary to obliterate the capillaries. To do this he conceived the idea that if, on a plane horizontal to the surface on which this pigmented area rested, a section was made of the integument in such a way that the entire thickness of the integument would not be destroyed, but that the knife should pass through each capillary loop as it came

* Delle Alterazione Patologiche delle Arterie per la Legatura e la Torsione.

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to the surface, he would then have integument still enough intact to prevent actual perforation of the same, with projection of the connective tissue beneath. After waiting for coagulation of the blood in these cut capillaries, a thin Thiersch graft was applied; all of these cut capillaries would then be obliterated, being plugged with blood-clot, which, becoming organized, would simply destroy the pigmented appearance of such a mark. Eighteen months ago a young woman presented herself with a very pronounced mark that extended over the forehead from the scalp to the eyebrow, including the eyebrow, the upper eyelid, and a portion of the malar prominence of the cheek. He adopted such a method as he described on a surface which had already received electrolysis and various other methods for the destruction of the vessels and color without avail, and succeeded in obtaining an excellent result. The patient was exhibited.

Education Preliminary to Medical Study.—The *Mississippi Medical Record* says this is a matter "of primary and paramount importance, and it is to be regretted that Dr. Billings did not emphasize the evils of the course pursued by many of our so-called reputable colleges even more forcibly. The reason the 'mortality rate' at examinations by our state boards is so high is easily accounted for when we find that fully one-half of the applicants are almost totally ignorant of the rudiments of English grammar and do not know the meaning of many of the simplest words of our ordinary language. We do not expect that the medical schools will ever require a college diploma as a requisite for entrance. It is not necessary, as many of our ablest practitioners are living witnesses. But it is pitiful in the extreme to see how far some of our schools descend in their eagerness to get patronage. Why can not we help? Most students, especially in our country districts, have preceptors and these gentlemen, despite the insinuation of a recent 'Fable' of Mr. Ade, do aid their students very materially in their choice of and preparation for their medical colleges. Can not these preceptors impress on their students the advisability of devoting their spare time to the acquirement of that general knowledge that will be of real benefit to them, not alone during the college course but throughout their entire lives, rather than to set them digging aimlessly into the primary branches and laboriously acquiring a few unimportant facts that they would take up 'by absorption' during their first course if their minds were better fitted to contain them?"

Medical Centenarians.—Picard writes an interesting historical sketch of this subject in the *Gazette Med. de Paris* for April 4 and 11, reviewing also the life insurance and other statistics in regard to "when and how physicians die," quoting extensively from THE JOURNAL. Hippocrates, he states, is said to have lived 104 years, and 140 is ascribed to Galen by one enthusiastic historian, but not by others. Three Arab physicians are cited as centenarians, and Picard has found records in France of four before Patenôtre, who died in 1709, aged 103. Poncy, who died at Paris in 1724, was born in 1623 and practiced to 100. Politiman is another French physician who lived into his second century—his biographer states to 140—and was in the habit of getting tipsy every evening, as also Dr. Espagno, who died at 112. A portrait of a Dr. P. Defournelle, inscribed 1690 to 1810, is preserved at Paris, but the first official record of a medical centenarian in France is Dr. A. Chaule, born in 1741, who lived to be 103, followed by Dr. Fau, also 103. Dr. Zalewski's death notice recorded at Bordeaux credits him with 111 years, and states that he was born in 1780, but no official record of his birth has been found. Dr. Bossy, who died at Havre in 1897 at the age of 104, was in such good health to the last that he made a trip to London three years before. His grandfather was 99 at the time of his death, and his father 108. The latter died at London in 1848 and had always enjoyed good health. Dr. Jean David of Montpellier celebrated his 102d birthday, February 10, 1903. He retired from active practice at 98. Picard has found four medical centenarians among the English members of the profession of the last century and five in this country. The latter are Dr. C. Smith, Cairo, Ill., and New York, who is said to have married at 123; Dr. D. Burke, Washington; Dr. H. Courtnay of Hancock; Dr. W. B. Sprague, and Dr. O. S. Taylor of Auburn, N. Y., concluding with Dr. C. Graham, whose centennial was celebrated by a banquet mentioned in THE JOURNAL in 1884, p. 549. Dr. Mavrogenis was a Greek physician, who attained the age of 100 in 1898, and a Swedish physician, Dr. Ivervex, is said to have invented an elixir which enabled him to live to 104. Only two Italian medical centenarians are mentioned and both died in the eighteenth century. A. Dr. O. Kownasky in Russia is said to have served in the Napoleon wars and died in 1887, aged 109. He was paralyzed for sixteen years before his death, but continued his practice to the last. It is said that he dictated a prescription a quarter of an hour before he died. In Spain Dr. F. Verdugo lived to be 105, practicing at Salamanca for eighty years, until his death in 1867. Another Spanish colleague was mentioned in 1875 as 105 years old, living in good health with a wife of 103. Dr. David, above mentioned, seems to be at present the dean of the profession the world around. Picard hopes to hear from others in regard to medical centenarians, as he would be glad to render his compilation as complete and accurate as possible. Communications addressed to him, M. L. Picard, care *Gazette Med. de Paris*, 93 boulevard St. Germain, VI, Paris, will be thankfully received. He cites his authorities in detail, with extracts.

Book Notices.

A TEXT-BOOK OF LEGAL MEDICINE AND TOXICOLOGY. Edited by Frederick Peterson, M.D., Chief of Clinic, Nervous Department of the College of Physicians and Surgeons, New York; and Walter S. Haines, M.D., Professor of Chemistry, Pharmacy and Toxicology, Rush Medical College, in Affiliation with the University of Chicago. Cloth. Pp. 750. Price, $5.00. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

This is the first volume of a system of legal medicine, rivaling, if not exceeding, in size the earlier one edited by Hamilton. Like the latter it is a composite production, and in this first volume we find the names of a number of well-known authors as contributors, such as Drs. Smith Ely Jelliffe, Ludvig Hektoen, Graeme M. Hamilton, Chalmers Da Costa and the late Dr. J. T. Eskridge, as well as the editors, whose well-known work in their departments has made them authorities. The articles are well written, as might be expected. The editors have made but little change in the work of their contributors, desiring them to retain the responsibility for their statements, a matter of some importance in medicolegal proceedings. They have followed the usual English standards of weights and measures throughout the work and the nomenclature and spelling of the U. S. Pharmacopeia. The volume covers the subject of expert evidence, postmortem examination, identity, signs of death, death from other causes, wounds, burns, railway injuries, medical jurisprudence of life and accident insurance, vision and audition in their medicolegal aspects, disorders of speech, inebriety, stigmata of degeneration, insanity, idiocy and mental perversion of sexual instinct. The contents of the succeeding volumes are given, which is a matter of convenience to the possessor of this volume. The work is illustrated wherever it seems necessary. The publishers have done their part, as usual, in an admirable manner. The book will fill a place in medicolegal literature, and, if we are not mistaken, will soon be recognized as a standard.

CANCER AND OTHER TUMORS OF THE STOMACH. By Samuel Fenwick, M.D., F.R.C.P., Consulting Physician to the London Hospital, and W. Soltau Fenwick, M.D. Lond., M.R.C.P., Senior Physician to the London Temperance Hospital. Cloth. Pp. 362. Price, $3.00. Philadelphia: P. Blakiston's Son & Co. 1903.

The major portion of this volume, as was to be expected, deals with cancer of the stomach. The work is almost entirely a statistical one. A large number of cases collected from various sources have been carefully analyzed and much interesting and useful data presented. The authors recognize three varieties of carcinoma of the stomach, namely, the spheroidal cell, including the hard or scirrhus and the soft or medullary; the cylindrical cell, or adenocarcinoma, and the colloid. The modern theories concerning the etiology of cancer are not mentioned, but this phase of the subject is handled, as are the others, in a statistical manner under the headings of Fre-

quency, Age, Sex, Geographical Distribution, Topography, Race, Heredity, Traumatism, etc. Some interesting facts are here recorded, but nothing that throws the least light on the cause of this great scourge. The authors do not favor exploration of the stomach through an abdominal incision as an aid to early diagnosis in suspected cases, but their reasoning in this regard is not sound, and until some better method of early diagnosis can be found, all hope of permanent relief must rest on more frequent and early exploration in suitable cases. The surgical treatment of cancer of the stomach occupies less than four pages, and merely touches on some of the indications for operation. The illustrations showing the gross anatomy of the disease as it affects the various portions of the stomach are very good.

THE PATHOLOGY AND DIFFERENTIAL DIAGNOSIS OF INFECTIOUS DISEASES OF ANIMALS. By Veranus Alva Moore, B.S., M.D., Professor of Comparative Pathology, Bacteriology and Meat Inspection, New York State Veterinary College, Cornell University, Ithaca, N. Y. With an Introduction by Daniel Elmer Salmon, D.V.M., Chief of the Bureau of Animal Industry, United States Department of Agriculture. Illustrated. Cloth. Pp. 380. Ithaca, N. Y.: Taylor & Carpenter. 1902.

While the average physician does not consider himself called on to study veterinary medicine, yet most country practitioners, and not a few city ones, will find some knowledge of the diseases of domestic animals of value to them in their practice. The present volume describes the leading disorders of most of the useful domestic animals, not only their symptoms, but their pathology, bacteriology, etc., and the volume forms a really valuable elementary treatise on the subject. When we consider the amount of money that is invested in animals and their usefulness, the part they play in the economy of our country, and especially the rural communities, the utility of such a book as this—lacking fuller treatises—to the physician can not but be manifest. As to its merits, the author, Dr. Moore, has long been known as one of the leading veterinarians of this country, and the fact that Professor Salmon, chief of the Bureau of Animal Industry of the United States Government, is ready to endorse it solely on his acquaintance with the author is a significant fact. The book is well gotten up and fully illustrated, the illustrations being well selected, and such as materially aid the text. The style is simple and clear, and the subject matter is treated interestingly. It is a work that should be welcomed, and have a wide circulation in the profession.

SURGICAL ANATOMY AND OPERATIVE SURGERY. For Students and Practitioners. By John J. McGrath, M.D., Professor of Surgical Anatomy and Operative Surgery at the New York Post-Graduate Medical School. Illustrated with 227 Illustrations, Including Colors and Half-tones. Cloth. Pp. xiv-559. Price, $4.00 net. Philadelphia: F. A. Davis Company. 1902.

In this volume the author has attempted to "combine in a practical manner the subjects of surgical anatomy and operative surgery." In attempting to cover both subjects much of importance has been omitted from each. The anatomy is often elementary and the description of operations stereotyped. One fails to find mention of much that is modern in operative work; for instance, the De Vilbiss rongeur or Gigli saw in head operations; Brophy's operation for cleft palate; Connell's principle of intestinal suture; perineal prostatectomy, etc. Indications for operation and points in favor of one method of operating over another in particular cases are not touched on. Some of the illustrations give erroneous ideas; for instance, Kraske's operation from the illustrations appears very simple and superficial, while on the contrary it is not only a difficult operation, but one in which the parts involved lie at considerable depth. As a guide to students taking the author's operative courses the work would be of value, but it would not fill a long-felt want with the practicing surgeon.

DISEASES OF THE PANCREAS AND THEIR SURGICAL TREATMENT. By A. W. Mayo Robson, F.R.C.S., Senior Surgeon, Leeds General Infirmary; and B. G. A. Moynihan, M.S. (Lond.), F.R.C.S., Assistant Surgeon, Leeds General Infirmary. 293 Pages, Illustrated. Cloth. Pp. 293. Price, $3.00 net. Philadelphia and London: W. B. Saunders & Co. 1902.

This volume is one of the most interesting and valuable monographs that has appeared during the past year. It deals with the surgical aspect of pancreatic diseases, and since the diseases of this gland have been studied more directly by the surgeon, much that is new has been learned, both in regard to the etiology and the treatment of the pathologic conditions of this heretofore somewhat obscure and rather inaccessible organ. The subject of pancreatitis is thoroughly considered, both from an experimental and clinical standpoint. The author has done much original work in this line, and particularly in the surgical treatment of chronic pancreatitis by means of drainage of the pancreatic ducts indirectly through the bile tracts. The work can be heartily recommended to all interested in the newer developments in the field of diseases of the pancreas.

OBSTINATE HICCOUGH. The Physiology, Pathology and Treatment. Based on a Collection of Over One Hundred and Fifty Cases from British and Foreign Works. By L. F. B. Knuthsen. Pp. 169. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co. 1902.

The author has devoted 152 pages to more or less complete abstracts of cases found in medical literature. The anatomy, physiology and pathology are treated in three pages, the treatment occupying about two pages of print. The pathology presented is such as might have been expected twenty-five years ago, and has no foundation on pathologic anatomy or on data obtained by modern methods of accurate diagnosis. Fifty-four means of treatment, mostly by the internal administration of drugs, have been used successfully by the authors who have reported cases. The book is interesting as a collection of curious clinical cases, but it does little to advance our knowledge of the causation of hiccough, or of the intelligent treatment of the symptom.

CLINICAL METHODS. A Guide to the Practical Study of Medicine. By Robert Hutchison, M.D., M.R.C.P., Assistant Physician to the London Hospital, etc., and Harry Rainy, M.A., F.R.C.P. Ed., F.R.S.E., University Tutor in Clinical Medicine, Royal Infirmary, Edinburgh. With Upwards of 150 Illustrations and 8 Colored Plates. Fifth Edition. Pp. 612. Chicago: W. T. Keener & Co. 1902.

While the authors of this work do not claim it to be a treatise on medical diagnosis, it contains an immense amount of practical information within reasonable space. It is a book that will be appreciated by the student who is beginning to study clinical cases, and attempting to take histories and make diagnoses. To the practitioner who has not had the advantage of recent laboratory training in the newer methods of exact diagnosis it is also eminently adapted. It can be recommended as reliable and fairly complete.

CLINICAL EXAMINATION OF THE GASTRIC CONTENTS. Illustrated. Paper. Pp. 48. Published by the New York Pharmacal Association, Yonkers, N. Y.

This is an attractive pamphlet and gives the methods employed in the examination of the gastric juices and includes the various tests, such as Ewald's and Boas' test breakfast and double test meal. Also tests for various significations as, for instance, hydrochloric acid, lactic acid, pepsin, etc., etc. There is also a chapter on clinical significance of variations in the gastric contents, and another on the method of using the stomach tube. The pamphlet is illustrated and contains much information of practical value to the practitioner.

ESSENTIALS OF THE DISEASES OF THE EAR, Arranged in the Form of Questions and Answers. Prepared Especially for Students of Medicine and Post-graduate Students. By E. B. Gleason, S.B., M.D., Clinical Professor of Otology, Medico-Chirurgical College, Philadelphia, etc. Third Edition. Thoroughly Revised. Pp. 214. W. B. Saunders & Co.: Philadelphia and London. 1902.

In the preparation of this work, the second edition has been carefully revised and considerable new matter added. Although the subjects discussed are divided by interrogatory headings, the general plan is not questions and answers, but very largely answers to a few leading questions. The plan and scope of the work should enable it to fulfill the object for which it was written.

A TEXT-BOOK OF PRACTICAL MEDICINE. For the Use of Students and Practitioners. By William Gilman Thompson, M.D., Professor of Medicine in Cornell University Medical College. Second Edition, Thoroughly Revised. With 62 Illustrations. Cloth. Pp. 1104. Price, $5.00. Philadelphia and New York: Lea Brothers & Co.

This second edition is a revision of the earlier one, which appeared about three years ago. The additions are not extensive, though the articles on dysentery, yellow fever and malaria have been rewritten, as well as one or two other changes made, and some new matter incorporated, bringing the work up to date.

THE DISEASES OF CHILDREN. By James Frederic Goodhart. Seventh Edition. With the Assistance of George Frederic Still. Pp. 813. Price $5.00 Net. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co. 1902.

In six previous editions, Goodhart's Diseases of Children has been one of the favorite books on this subject both among students and practitioners. The last revision has brought it fully up to date, and the newer matters of interest in etiology and treatment have been introduced.

Marriages.

F. V. CLARK, M.D., to Miss Duval Woodrum, at Roanoke, Va., June 30.

PAUL F. MORF, M.D., to Miss Louise E. Paulus, both of Chicago, July 9.

JOSEPH DAMIANI, M.D., to Miss Josephine Samuelson, both of Chicago, June 30.

ELAN M. RUSSELL, M.D., to Miss Lucy Harris Hart, both of Carthage, Tenn., July 3.

WILLIAM CLARENCE GWYNN, M.D., to Miss Louise Harrison Beall, at Baltimore, June 27.

PAUL S. MERTENS, M.D., Montgomery, Ala., to Miss Francis Sproul White, at Lexington, Va.

WILLIAM ELNATHAN CLARK, M.D., to Miss Frederickke Gorder of Frederick, S. D., July 8.

JAMES THOMAS NUNNALLY, M.D., Griffin, Ga., to Miss Maggie Helen Beaty of Valdosta, Ga., July 7.

J. M. CHITTUM, M.D., to Miss Teresa Smith, both of Richmond, Iowa, at Albert Lea, Minn., June 17.

ARTHUR C. MORGAN, M.D., Philadelphia, to Miss Laura Blake of Bridgeport, Conn., at Philadelphia, June 24.

DANIEL ALLEN PENICK, M.D., Nicholasville, Ky., to Miss Ella Mason Jordan of Ellicott City, Md., June 30.

NOAH ARTHUR BURR, M.D., Springfield, Mass., to Miss Rose Mary Steinway of Great Barrington, Mass., July 1.

Deaths.

Alonzo B. Richardson, M.D.

Dr. Alonzo B. Richardson, Bellevue Hospital Medical College, New York, 1876, medical superintendent of the Government Hospital for the Insane, Washington, D. C.; a member of the American Medical Association; president of the American Medico-Psychological Association; member of the Medicolegal Society of New York, and Ohio State Medical Society; formerly assistant physician and medical superintendent of the Athens (Ohio) Asylum for the Insane, and superintendent of the state hospitals for the insane at Columbus and Massillon, Ohio, died from apoplexy at the Emergency Hospital, Washington, D. C., June 27, after an illness of a few hours, aged 50. The Columbus *Citizen*, in an editorial, thus speaks of "Ohio's Loss and the Nation's":

In the death at Washington of Dr. A. B. Richardson, Columbus shares its loss with Ohio and the nation. Born and educated in this state, he had done inestimabe service for its unfortunates and only left this field a few years ago at the call of President McKinley to continue his work in the national hospital for the insane at Washington. His death is all the more to be regretted for the fact that he was stricken down in the fullness of his powers when there was promise of still greater achievements for the relief of an army of sufferers.

Dr. Richardson must be numbered among the great Ohioans. In his administration of the hospitals at Athens, Columbus and Massillon he attracted such wide attention that his promotion to the head of the great national institution, to be constructed according to his plans, was but a natural recognition of his services.

The Columbus Academy of Medicine held a special meeting, June 30, to take action on the death of Dr. Richardson, who had once been president of the Academy.

De Laskie Miller, M.D.

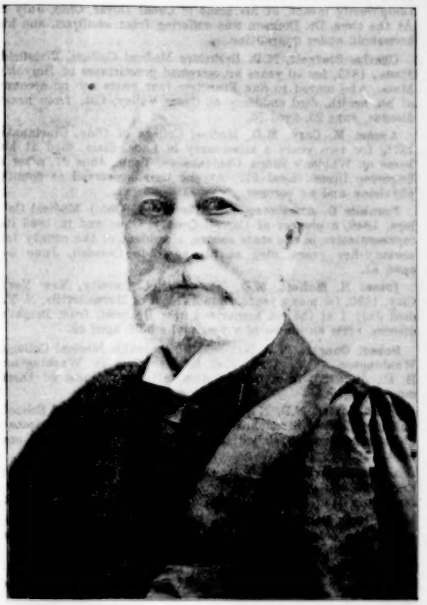
Dr. De Laskie Miller, one of the oldest, most prominent and best-beloved physicians of Chicago, died at his home in that city, July 9, aged 85 years.

De Laskie Miller was born in New York City, May 29, 1818. He was graduated from the Syracuse Medical College in 1842, began practice in Lockport, N. Y., then moved to Flint, Mich., and 51 years ago settled in Chicago. Seven years later he was made professor of obstetrics and diseases of women and children in Rush Medical College, and held this chair for twenty years, when he was made professor of obstetrics and diseases of children, and filled this position until 1889.

When Rush Medical College became affiliated with the University of Chicago, Dr. Miller was made president of the board of trustees, and emeritus professor of obstetrics and diseases of children, and in this position he took an active and important part in the work necessary to bring about the affiliation. He was also an advocate of the elevation of medical educational standards and persistently urged betterment in this regard throughout his entire term of service as professor and trustee.

Last winter, on account of increasing infirmities of age, he resigned his position as president of the board of trustees, but the trustees refused to accept his resignation and lightened his duties.

For many years Dr. Miller had an extensive practice, chiefly in the line of obstetrics, but retired several years ago from active work, retaining only a few of his old patients. Dr. Miller was always a student. During his thirty years of



DE LASKIE MILLER, M.D.

active teaching work, his lectures, while scientific in the highest degree, were always entertaining. He was one of the most popular members of the faculty and was greatly beloved by his students. He was always courteous and helpful to the younger men of the profession. He was a member of the American Medical Association, the Illinois State Medical Society, and a life member of the Chicago Medical Society.

His death was the result of heat prostration, which occurred July 3. He was apparently improving from this condition, but on July 4 had a cerebral hemorrhage with slight consequent paralysis from which he also partially recovered. On July 7, however, the hemorrhage recurred, and this was followed by unconsciousness, from which he did not rally, and died on July 9, at 7 o'clock in the morning. He was buried July 12; the interment was private.

Francois Jean Baptiste Rohmer, M.D. Medical College of Louisiana, New Orleans, 1835, died at his home in Mobile, Ala., June 30, aged 90. He was an ardent student of science, and at the outbreak of the Civil War was appointed by Jefferson

Davis surgeon and botanist, and detailed to collect medicinal plants for the use of the forces. He afterward established a laboratory at Mobile for the manufacture of medicines, dressings, etc. He retired from active practice about four years ago.

Julian Harmon, M.D. Cleveland Medical College, 1849, who had practiced at Warren, Ohio, for nearly fifty-four years; assistant surgeon of the Second Ohio Volunteer cavalry in the Civil War; an active member of the Trumbull County, Northeast Ohio, and Ohio State Medical Societies, died at his home in Warren, July 1, from cancer of the mouth, after an illness of three years, aged 79.

Daniel William Lassiter, M.D. University of Pennsylvania, Philadelphia, 1851, president of the Petersburg (Va.) Medical Faculty, died at his home in Petersburg, July 3, after an illness of one year, aged 76. The Petersburg Medical Society, at a special meeting, July 4, adopted resolutions testifying to the great worth and noble character of Dr. Lassiter.

James Dickson, M.D. Homeopathic Hospital College, Cleveland, Ohio, 1875, was shot and killed by his son, who was temporarily insane, at his home in Canal Dover, Ohio, July 2. At the time, Dr. Dickson was suffering from smallpox, and his household under quarantine.

Charles Blodgett, M.D. Berkshire Medical College, Pittsfield, Mass., 1859, for 40 years an esteemed practitioner of Holyoke, Mass., who moved to San Francisco four years ago on account of his health, died suddenly at Grass Valley, Cal., from heart disease, June 25, aged 75.

Abram M. Cary, M.D. Medical College of Ohio, Cincinnati, 1876, for two years a missionary in Laos, Siam, died at his home on Walden's Ridge, Chattanooga, Tenn., June 27, after a lingering illness, aged 57. At one time he served as county physician and as coroner.

Franklin G. Armstrong, M.D. Cleveland (Ohio) Medical College, 1849, a pioneer of Carroll County, Ohio, and in 1866 its representative in the state senate, a resident of the county for seventy-five years, died at his home in Camden, June 24, aged 81.

James H. McNett, M.D. New York University, New York City, 1880, for many years a practitioner of Hornellsville, N. Y., died July 1 at the old homestead near Belmont, from Bright's disease, after an illness of a year and a half, aged 49.

Robert Douglas, M.D. National Homeopathic Medical College, Washington D. C., 1895, died at his home in Washington, D. C., June 25, from consumption, after an illness of three months, aged 58.

V. H. Harter, M.D. Northwestern University Medical School, Chicago, 1902, of Stronghurst, Ill., died at the Cottage Hospital, Galesburg, from appendicitis, June 25, after an illness of one week.

Archer Starel Cook, M.D. California Medical College, San Francisco, 1881, of San Francisco, died suddenly from heart disease, July 1, at the home of his daughter in Oakland, aged 72.

Robert F. Henry, M.D. Rush Medical College, Chicago, 1853, one of the oldest practitioners of Peoria County, died at his home in Princeville, Ill., July 1, from apoplexy, aged 80.

Levi T. Hayward, M.D. Boston University School of Medicine, 1874, or Orange, Mass., died at Cottage City, Mass., June 22, after an illness of five months, from dropsy, aged 54.

Camillus H. Fahnestock, M.D. New York Homeopathic College and Hospital, 1872, died at his home in Laporte, Ind., July 5, from apoplexy, after an illness of two days, aged 56.

David A. Fox, M.D. New York University, New York City, 1852, died at his home in Clinton, Conn., July 1, from disease of the stomach, after an illness of two weeks, aged 74.

George C. Parmiter, M.D. Philadelphia University of Medicine and Surgery, 1868, died at his home in Syracuse, N. Y., June 29, after an illness of thirteen weeks, aged 82.

Amidee F. Voorhees, M.D. New York University, 1852, one of the oldest practitioners of New Jersey, died at his home in Basking Ridge, June 26, from paralysis, aged 79.

Frank Havenstrite McNeel, M.D. Rush Medical College, Chicago, 1881, died recently at his home in Seattle, Wash., from cancer, after an illness of three months, aged 47.

John R. Kimerer, M.D. College of Physicians and Surgeons, Baltimore, 1885, died at his home in Danville, Pa., July 1, from Bright's disease, after a long illness, aged 43.

David Ellis, M.D. University of Louisville, (Ky.), 1852, an aged practitioner of Augusta, Ill., was run over by a passenger train and killed, at Augusta, July 5, aged 80.

Asa V. Hutchins, M.D. Hahnemann Medical College, Chicago, 1883, died at his home in Chicago, July 6, from injuries received in a fall a week previous, aged 59.

Daniel W. Crittenden, M.D. University of Nashville, 1859, died from uremia at his home in Gordonsville, Ky., June 29, after a short illness, aged 70.

Calvin Austin Crowe, M.D. Jefferson Medical College, Philadelphia, 1854, died at his home in Florence, Ala., June 18, after a lingering illness, aged 70.

Richard M. Green, M.D. University of Pennsylvania, Philadelphia, 1856, died at his home in Corsicana, Texas, from asthma, June 18, aged 63.

William S. Dixon, M.D. Pulte Medical College, Cincinnati, 1886, died at his home in Portsmouth, Ohio, June 30, from Bright's disease, aged 64.

Newton J. Rice, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1857, died at his home in Newton Falls, Ohio, June 29, aged 74.

H. C. Van Noy, M.D. University of Michigan, Ann Arbor, 1862, died at his home in Kansas City, Mo., from paresis, July 2, aged 71.

George Howard Kennard, M.D. College of Physicians and Surgeons, Baltimore, died at Silver Lake, Ohio, June 18, aged 43.

James Gerry, M.D. Jefferson Medical College, Philadelphia, 1863, died at his home in Shrewsbury, Pa., July 2, from heart disease.

David H. Bullard, M.D., died at his home in Glens Falls, N. Y., July 1, aged 90. He retired from practice three years ago.

Eugene M. Jones, M.D. Albany (N. Y.) Medical College, 1887, died at his home in Raynertown, N. Y., June 27, aged 43.

L. C. Means, M.D., died at the residence of his son, Dr. Edwin A. Means, Dallas, Texas, July 3, from pneumonia, aged 78.

Charles E. Nash, M.D. University of Missouri, St. Louis, 1849, died at his home in Little Rock, Ark., July 8, aged 79.

John Patterson, M.D. Transylvania University, Lexington, Ky., 1841, died at his home in Auburndale, Fla., June 27.

Robert E. Gatlin, M.D. Tulane University, New Orleans, 1891, died at his home in Summit, Miss., July 1, aged 41.

E. S. Fiske, M.D. New York University, New York City, 1884, died at his home in Towner, N. D., June 28.

W. C. Gordon, M.D., founder of Gordonsville, Texas, was shot and killed in that city, June 28, aged 35.

Francis E. Brocard, M.D., died at his home in New Orleans, June 29, after a long illness, aged 50.

Calvin M. Clayton, M.D., died suddenly at his office in Warsaw, Ind., June 29, from paralysis.

William Rubinstein, M.D., died at his home in Baltimore, July 1, from heart disease, aged 60.

Medical Organization.

Reorganization in New Jersey.

The Medical Society of the State of New Jersey held its one hundred and thirtieth annual meeting, June 23, 24 and 25, at Asbury Park. At its meeting in 1902 a committee was appointed to consider the subject of reorganization, and to report a new constitution and by-laws, if this were deemed advisable. Dr. Philip Marvel, Atlantic City, was made chairman of the committee, and he and his colleagues had given much thought to the subject. A report was presented at the opening session recommending the adoption of the American Medical Association plan, with only such modifications as might be necessary to conform to the ancient charter of the society. The report was taken up at the afternoon session and promptly adopted by a unanimous vote.

This is the oldest state society in the United States. Organized in 1776, and holding regular meetings during all these years, its influence in shaping the medical history of the state has been paramount. As in some of the other original states, it was empowered to examine and license physicians and, after a fashion, to regulate the practice of medicine.

Gradually shorn of these powers by conflicting or adverse decisions, in recent years the society had been mainly instru-

mental in procuring the enactment of an almost model medical examining law, which has the confidence and support of both the profession and people. This law has been construed by the highest courts as regulating the treatment of human ailments by any and all methods, placing New Jersey in line with the most advanced states in this regard.

The personnel of the membership in attendance impressed one as being almost as remarkable as the honorable history of the society itself. It was distinctly a gathering of mature and elderly men. In this and other respects one was constantly reminded of some of the fine old English societies. While the absence of the younger element, which was so noticeable, could not but be a disadvantage to the society, and still more so to the younger members of the profession of the state who deprived themselves of the privilege of attendance, so far as the society itself was concerned, this was compensated for, so far as possible, by the activity and zeal of these mature men. Abreast of the times in scientific work, and fully alive as to all medical and public health affairs, the papers and discussions were fully up to the average at all times. One octogenarian took part in the discussion of a report on a public health question, and spoke with a vigor and clearness beautiful to hear.

Another specially noticeable feature was the intimate relation constantly shown to exist between the society, the State Board of Health and the State Board of Medical Examiners. This was manifested not only in the interest shown in all matters relating to such public affairs, but in the prominence given them in the program and discussions. The retiring president is the secretary of the State Board of Examiners, and the president-elect is the efficient secretary of the State Board of Health. This long-continued union no doubt in part accounts for the ease with which the strong medical and health laws have been secured, and for the public and professional sentiment which made their enforcement possible without the judicial obstacles which have so hampered such work in many other states. It may also account, either as cause or effect, for the fact that over half of the registered physicians of the state are members of the county and state societies, a larger proportion than has been found in any other state except Alabama.

Considered either in the light of its long and honorable history, or of its actual achievements in all the lines of work properly belonging to such a body, any criticism of this society must be in commendation. Its staid, dignified, and somewhat cold proceedings and methods were in striking contrast with the more informal gatherings in other sections, but it was a pleasure and privilege to attend the meeting, and especially to see this conservative body ready to change its fundamental laws as soon as it was found best to do so. It could not but be an advantage to all concerned if the younger men could be induced to attend and take an active interest in the work of the society. This will doubtless be brought about under the new order of things.

Officers.

The following officers were elected for the coming year: President, Dr. Henry Mitchell, Asbury Park; vice-presidents, Drs. Addison W. Taylor, Beverly, Walter B. Johnson, Paterson, and Henry W. Elmer, Bridgeton; corresponding secretary, Dr. Ellis W. Hedges, Plainfield; recording secretary, Dr. William J. Chandler, South Orange, and treasurer, Dr. Archibald Mercer, Newark.

Council.

Drs. Thomas W. Harvey, Orange; John L. Leal, Paterson; Cornelius Shepherd, Trenton; Daniel Strock, Camden, and Philip Marvel, Atlantic City, were elected councilors. The twenty-one counties were divided into five councilor districts, and the proper steps taken to put the new constitution and by-laws into operation without delay, including a card-index for both the state and counties. J. N. MCCORMACK.

Boyle County (Ky.) Medical Society.

Physicians of Boyle County met at Danville, June 26, and reorganized the Boyle County Medical Society, with the following officers: President, Dr. F. H. Montgomery, Danville; and secretary and treasurer, Dr. Spurgeon Cheek.

Madison County (Ind.) Medical Society.

This society met in called session at Anderson after due notice from the president and secretary, and unanimously adopted the constitution and by-laws suggested by the special committee of the American Medical Association. This society numbers 60 members, and should greatly increase its membership under the stimulus of the reorganization movement.

New Hanover County (N. C.) Medical Society.

The medical fraternity of New Hanover County met at Wilmington, June 25, and effected temporary organization of a county medical society. Dr. William D. McMillan, Wilmington, was made chairman and Dr. Thomas M. Green, Wilmington, secretary. A committee was appointed to draft a constitution and by-laws in conformity with those of the state society and the American Medical Association.

Northwestern Pennsylvania Medical Society.

On June 4 five county medical societies united at Cambridge Springs to form a district medical society. It is the ultimate aim of the promoters to include several other counties in the district, so as to conform with the district organization of the state medical society. Dr. Clarence W. Coulter, Oil City, was elected president, and Dr. James R. Durham, Warren, secretary. Only members of the county medical societies are eligible to membership.

Jefferson County (N. Y.) Medical Association.

Under the direction of Dr. J. Orley Stranahan, Rome, a meeting was held at Watertown, July 6, to organize a county medical association to be an integral part of the First District Branch, New York State Medical Association. The following officers were elected: President, Dr. Byron C. Cheeseman, Watertown; vice-president, Dr. Parley H. Johnson, Adams; Dr. Florence A. Sherman, Watertown, secretary and treasurer; Dr. Andrew J. Dick, Watertown, delegate to the New York State Medical Association, and Dr. Charles C. Kimball, Watertown, alternate.

Lone Star Medical Association.

This association, whose membership is made up of colored physicians, held its annual meeting at Marlin, Texas, June 16 and 17. The association adopted the constitution and by-laws as promulgated by the American Medical Association. The following officers were elected: Dr. Thomas E. Speed, Jefferson, president; Dr. Henry L. Smith, Waco, vice-president; Dr. R. E. L. Holland, Temple, secretary; Dr. Napoleon T. Atkinson, Greenville, corresponding secretary, and Dr. Rufus S. Childs, Marlin, treasurer. The next meeting will be held in Waco, Texas, in April, 1904.

Lee County (Iowa) Medical Society.

Pursuant to a call issued by Dr. Charles E. Ruth, Keokuk, councilor for the First District of Iowa, the physicians of Lee County met at Fort Madison, July 2, and organized a county society, adopting the constitution and by-laws suggested by the American Medical Association. The election of officers resulted as follows: President, Dr. France C. Roberts, Fort Madison; vice-president, Dr. Frank M. Fuller, Keokuk; secretary, Dr. John Downs, Fort Madison; treasurer, Dr. William E. Sloat, Denmark, and censors, Drs. Emmett C. Chapman, Fort Madison, Tabor R. Washburn, Donnellson, and E. M. Buck, Montrose. The next meeting will be held at Keokuk in October.

Societies.

Harvard University Medical School Alumni Association.—The triennial meeting was held in Boston, June 24. The following officers were elected: President, Dr. Charles F. Folsom, Boston; vice-presidents, Drs. John C. Webster, Chicago; Frederick W. Borden, Ottawa, Ont.; George B. Shattuck, Boston; Erasmus D. Leavitt, Butte, Mont.; Beverly Macmonagle, San Francisco; Isadore N. Bloom, Louisville; Reynold W. Wilcox, New York City; Josiah N. Hall, Denver; Percival J. Eaton, Pittsburg, and Edward F. Cushing, Cleveland; treasurer, Dr. William H.

Prescott, Boston; secretary, Dr. George S. Whiteside, Boston, and assistant secretary, Dr. John G. W. Knowlton, Roxbury, Mass.

New York State Medical Association, Third District Branch.—The nineteenth annual meeting was held in Syracuse and Onondaga Valley, June 25. A new by-law was adopted which states in substance that the council shall hereafter, in compliance with the conditions specified in the article, assume the defense of suits of alleged malpractice brought against members of the society. The council will not undertake the defense of suits brought against a member previous to his membership, and any member wishing to avail himself of the privileges of the article must first sign a contract renouncing his own and vesting in the council sole authority to conduct the defense of said suit in any manner in which may be considered fit. The council will not, however, feel obliged to pay damages in case such are declared by the court. Dr. Frank W. Higgins, Cortland, was elected president; Dr. Franklin J. Kaufmann, Syracuse, vice-president; Dr. Clarke W. Greene, Binghamton, secretary, and Dr. Frank Kenyon, Scipio, treasurer. Binghamton was selected as the next place of meeting.

Ontario Medical Council.—The Ontario Medical Council has been meeting in Toronto during the past week. It has elected for president for the ensuing year Dr. J. A. Robertson of Stratford, Ont., and the Hon. Dr. Sullivan of Kingston as vice-president. Drs. R. A. Pyne and H. W. Aikins of Toronto were re-elected registrar and treasurer respectively. The most important matter which came before the council this year was the report of the special committee on legislation, which suggested amendments to the Ontario Medical Act, which would benefit both the public and the profession. This report stated that it would be wise owing to the amount of quackery prevailing throughout the province for the legislature to clearly define what is meant by the practice of medicine. Following on this advice the medical council provided a resolution bringing these matters to the attention of the legislature. They felt, however, that it would be unwise to do anything more than call the attention of the legislature to irregular unauthorized practitioners at the present time.

MAINE MEDICAL ASSOCIATION.

Fiftieth Annual Meeting, held in Portland, June 3, 4 and 5, 1903.

President, Dr. Hiram Hunt, Greenville, in the Chair.

History of the Association.

DR. CHARLES O. HUNT, Portland, delivered the historical address. Of the 82 practicing physicians who signed the roll at the first meeting in 1853, only 3 are alive to-day, namely, Dr. Alonzo Garcelon, Lewiston, now 90 years of age and still in active practice; Dr. Cyrus Kendrick, Jr., Litchfield Corners, and Dr. Nathaniel T. Palmer, Brunswick. He then sketched the history of the society, the benefits of the medical association to the practitioner, and considered its intellectual value, its fraternal and social benefits and the value of organization. The objects of the association as stated in the constitution are "Mutual professional improvements, cultivation of friendly intercourse between its members, faithful support of regular and honorable practice and the promotion of medical science." He then took up the American Medical Association plan of organization, and suggested that a committee of five be appointed to consider the plan and report at its next annual meeting.

Election of Officers.

At the morning session of the second day the following officers were elected: President, Dr. Augustus S. Thayer, Portland; vice-presidents, Drs. Frederick L. Dixon, Lewiston, and Frank L. Shaw, Machias; corresponding secretary, Dr. Albert H. Sturtevant, Augusta, and treasurer, Dr. Arthur S. Gilson, Portland.

Historical Papers.

DR. JOHN L. M. WILLIS, Eliot, read a paper on "The History of Medicine in Maine Prior to 1853," and DR. WILLIS B. MOULTON, Portland, one "On the History of Medicine in Maine Outside of the Association Since 1853." In 1860 Maine, with a population of 626,297, had 795 physicians and 3 surgeons—one physician to every 1,050 of the population. In 1900, with a population of 694,466, 1,206 physicians were registered—one to every 576 of the population. The increase in the population in the forty years was about 10 per cent., while the percentage of increase of physicians was more than 51.

Banquet.

The annual banquet was held June 4. Dr. Edwin Fuller, Bath, presided as toastmaster. He called attention to the presence of two of the charter members of the association, the venerable Dr. Alonzo Garcelon and Dr. Cyrus Kendick. Among the toasts responded to were those on "The Relation of Theology to Medicine," "The Relation of Literature to Medicine," "The Relation of the Alienist to the Medical Profession," "The Relation of Good Fellowship to Medicine," and "The Relation of Medicine to the Student."

Entertainment.

After the adjournment of the business session about 150 members enjoyed a sail down Casco Bay and a shore dinner at Long Island.

SOUTH DAKOTA STATE MEDICAL ASSOCIATION.

Twenty-second Annual Meeting, held at Mitchell, May 27 and 28, 1903.

The President, Dr. J. O. Duguid of Springfield, in the Chair.

The Committee on Reorganization.

DR. R. C. WARNE of Mitchell, chairman, reported in favor of adopting the recommendations of the committee on reorganization of the American Medical Association. The report of the committee was adopted without change.

By this action the state is divided into nine councilor districts (with one society in each district). A number of excellent papers were read. Dr. H. E. McNutt gave an interesting account of the passage of our model medical practice law. A vote of thanks was tendered Drs. McNutt and J. R. Hawkins for their good services in securing medical legislation.

Election of Officers.

The following officers were elected: President, Dr. B. A. Bobb, Mitchell; vice-presidents, Dr. C. B. Mallery, Aberdeen, and Dr. J. G. Parsons, Brookings; secretary-treasurer, Dr. William Edwards, Bowdle; assistant secretary, Dr. F. M. Crain, Redfield. Councilors: Dr. Daniel Geib, Groton; Dr. E. T. Ramsey, Clark; Dr. J. E. Coulter, DeSmet; Dr. O. R. Wright, Huron; Dr. A. J. Doty, Colman; Dr. F. L. Freyberg, Mitchell; Dr. J. R. Hawkins, Sioux Falls; Dr. C. C. Gross, Yankton; Dr. W. G. Smith, Sturgis. Members of the house of delegates: Dr. H. J. Rock, Aberdeen; alternate, Dr. C. J. Lavery, Fort Pierre. Place of next annual meeting, Redfield.

The association was handsomely entertained by the citizens of Mitchell and banqueted by the Mitchell District Medical Society.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES.

Minutes of the Thirteenth Annual Meeting, held at New Orleans, May 4, 1903.

List of Representatives.

The Association convened in the Auditorium of Artillery Hall, and was called to order at 2:30 p. m. by the president, Dr. Wm. L. Rodman, Philadelphia.

The following colleges (45) were represented by delegates:

Arkansas Industrial University Medical Department: Edwin Bentley.

Denver and Gross College of Medicine, Denver, Colo.: Thos. H. Hawkins.

Columbian University Medical Department, Washington, D. C.: Thos. A. Claytor.

Georgetown University Medical Department, Washington, D. C.; Geo. M. Kober.

American Medical Missionary College, Chicago, Ill.: E. L. Eggleston.

College of Physicians and Surgeons, Chicago, Ill.: W. A. Evans.

Illinois Medical College, Chicago, Ill.: H. H. Brown.

Northwestern University Medical School, Chicago, Ill.: W. S. Hall.

Rush Medical College, Chicago, Ill.: J. M. Dodson.

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Ft. Wayne College of Medicine, Ft. Wayne, Ind.: M. F. Porter.
Medical College of Indiana, Indianapolis, Ind.: D. A. Thompson.
Iowa College of Physicians and Surgeons, Des Moines, Iowa: Lewis Schooler.
College of Medicine, State University of Iowa, Iowa City, Iowa: J. H. Guthrie.
Keokuk Medical College, College of Physicians and Surgeons, Keokuk, Iowa: G. R. Jenkins.
Kansas Medical College, Topeka, Kans.: W. S. Lindsay.
Hospital College of Medicine, Louisville, Ky.: P. R. Taylor.
Kentucky School of Medicine, Louisville, Ky.: W. H. Wathen.
University of Louisville Medical Department, Louisville, Ky.: J. M. Bodine.
Kentucky University Medical Department: T. C. Evans.
Flint Medical College, New Orleans University, New Orleans, La.: H. J. Clements.
Baltimore Medical College, Baltimore, Md.: D. Streett.
Baltimore University School of Medicine, Baltimore, Md.: W. O. B. Sellman.
College of Physicians and Surgeons, Baltimore, Md.: C. F. Brown.
University of Maryland School of Medicine, Baltimore, Md.: R. Winslow.
Woman's Medical College, Baltimore, Md.: H. Harlan.
College of Physicians and Surgeons, Boston, Mass.: C. M. Cobb.
Detroit College of Medicine, Detroit, Mich.: H. O. Walker.
University of Minnesota College of Medicine, Minneapolis, Minn.: J. H. Fulton.
Kansas City Medical College, Kansas City, Mo.: T. J. Beattie.
University Medical College of Kansas City, Kansas City, Mo.: S. C. James.
Marion Sims-Beaumont Medical College, St. Louis, Mo.: H. W. Loeb.
St. Louis College of Physicians and Surgeons, St. Louis, Mo.: C. W. Lillie.
Jno. A. Creighton Medical School, Omaha, Neb.: H. L. Burrell.
University of Nebraska College of Medicine, Lincoln, Neb.: H. B. Ward.
University of North Carolina Medical Department, Chapel Hills, N. C.: R. H. Whitehead.
Miami Medical College, Cincinnati, Ohio: J. Eichang.
Cleveland College of Physicians and Surgeons, Ohio: A. R. Baker.
Ohio Medical University, Columbus, Ohio: W. J. Means.
Jefferson Medical College, Philadelphia, Pa.: J. W. Holland.
Medico-Chirurgical College of Philadelphia, Pa.: Seneca Egbert.
Woman's Medical College of Pennsylvania, Philadelphia, Pa.: W. L. Rodman.
Meharry Medical College, Nashville, Tenn.: G. W. Hubbard.
University College of Medicine, Richmond, Va.: Stuart McGuire.
Milwaukee Medical College, Milwaukee, Wis.: W. H. Earles.
Wisconsin College of Physicians and Surgeons, Milwaukee, Wis.: A. H. Levings.

The minutes of the Saratoga meeting, as printed in the proceedings, were accepted with the following corrections: (1) The minutes to show that the Kentucky School of Medicine was represented at the Saratoga meeting. (2) That the name of Dr. J. W. Chambers be inserted in place of that of Dr. Robert Reyburn at the bottom of page 6.

President's Address.

The first vice-president, Dr. R. H. Whitehead, then took the chair, while the president, Dr. Wm. L. Rodman, delivered the presidential address.

In the first place, it is my pleasure to cordially thank you for the distinguished compliment shown in choosing me as your presiding officer for this meeting. Believing that this would prove to be a critical year in the life of the Association, I assumed office with many misgivings as to my own ability to safely advise and direct the Association's affairs.

It has seemed to me best to follow the beaten paths trodden by my illustrious predecessors and spend the brief time allotted in making a few general recommendations concerning the present needs of the Association. ¶ can not hope to say much that is new, but will endeavor to emphasize that which seems to me true. In doing so, I trust that I will give offense to none, and that I will be credited with an honest endeavor to advance the interests of this Association and to further the cause of medical education, which has ever been its prime object.

In appointing a committee at the last meeting to amend Article III of the Constitution, a judicious step was taken by the Association and one which I am sure will result only in good. The personnel of the committee should command for their carefully prepared reports the respectful consideration of all the assembled delegates. It is to be regretted, I think, that more sweeping authority was not given this excellent committee, so that other amendments, as needful perhaps as those submitted, could have been suggested. The whole constitution and by-laws should be rewritten and made to conform to the requirements of the present time. In many respects they are absolutely wanting, in others vague, and in others still the opposite of what they should be. I would, therefore, suggest the continuance of this committee in the work so well begun, with instructions to present any changes in the constitution and by-laws which may seem necessary at the next annual meeting.

I am pleased to announce that the deficit existing at the last meeting has been entirely liquidated and that there is a sufficient balance in the treasury to meet the Association's obligations during the current year. It could not have been possible, however, without raising the membership fee to ten dollars. This very necessary change will save the secretary many annoyances of a financial nature in the future, and insure, among other things, the prompt publication of the minutes of our meeting. Moreover, a fund will soon be created which can be still further increased, if necessary, by direct assessment to provide for the inspection of all the schools members of the Association. Such a step now seems to me necessary, and I would recommend that the secretary be requested to make, or cause to be made, an examination of the plants and equipments of all the colleges forming the Association, and to report thereon as soon as practicable. By taking one-third of the schools each year, a perfectly satisfactory examination could be made as to their didactic, clinical and laboratory facilities, and the result of such examination be reported on fully at the next annual meeting. Such an examination and report would do more, in my judgment, than any other step that could be taken. Poorly equipped institutions would be slow to seek admission into the Association if they were required to pay the expenses incident to a proper examination of their plant and to abide by the result of such a report made to the Judicial Council. It is easy to comply on paper with all necessary requirements. Some attempt at least should be made to hold schools responsible for what they advertise. This, seemingly, is the only way of doing so.

Membership in this Association has been like salvation, entirely too free in the past, and it can not be denied that the stronger and better schools holding membership are more than restive under the careless admission of some and the continuance in good standing of others that have sinned grievously and palpably. What we need is not more members, but better ones, so that schools seeking admission will do so because it will be both a credit and an honor to belong to the Association of American Medical Colleges, and not as is true now of some, simply for the reason that it is to their commercial advantage to do so. I am neither optimistic nor Utopian enough to believe that all the members of this Association can be of equal merit, any more than can all men or all practitioners of medicine. This is unnecessary. It is the privilege of the strong to support the weak so long as they deserve it, but it is not the duty of those who are virtuous and support the law to shield those who voluntarily transgress it. The Association fixes a minimum standard and pretends to require that all of its members live up to their obligations. They are not doing it, and everyone in this audience who is advised knows it.

JUDICIAL COUNCIL.

That many schools have sinned in the past is to be inferred from the promptness with which unanimous verdicts of the Judicial Council have been set aside by the Association when charges have been both sustained and admitted. We should either support the Council when we believe it to be right or do away with the farce of mock trials altogether. We should not allow the good fellowship of teachers to excuse glaring faults in the schools they represent, a sin easily committed. The work of the Judicial Council is tedious, and somewhat disagreeable, and those who are willing and capable of serving the Association in this capacity should be supported in all reasonable recommendations. They will always give the ac-

cused the benefit of doubts, and the Association can add something to their leniency if it seems best; but to deliberately set at naught the verdicts of a unanimous jury would hardly be countenanced by the most lenient of judges.

FEES.

This body has in the past declined to recognize or discuss the question of fees. So far as fixing a minimum rate, as is done by the Association of Dental Colleges, there are, I admit, two sides to the question. Personally, I favor it and think the time has come to say that no school holding a cheap estimate of its own work shall become a member of this Association. But as to another question, namely the reduction of fees under one pretense and another, there is but one side. This, to my mind, from verbal and written evidence, is the greatest evil from which the Association is now suffering. It can only be stopped by saying that all members shall live up to their published announcements and collect the amounts specified in their catalogues. While I am strongly in favor of a minimum charge of one hundred dollars, and consider this sum really less than a first-class course in medicine can be had for at the present day, still I would be willing to say, let a school charge whatsoever it may please, but require that it collect that amount, and collected in money and not in services or any other questionable way. So flagrant have been the transgressions along this line that it is believed by many that a sufficient forfeit evidencing the good faith of the institution should be required of every member of the Association. I see much in the suggestion to warrant its trial, and believe that it would certainly have a repressive influence if it did not absolutely prevent this blighting evil.

SCHOLARSHIPS.

Some schools have shown scant regard for resolutions hitherto passed by the Association in reference to scholarships. This is an evil parallel to the cutting of fees and should, so far as possible, be eliminated.

TRANSFER OF STUDENTS.

While the constitution is clear enough as to the privileges of members to deal with the students of other schools at the beginning of a session, it has nothing to say on the important question of transferring students in the midst of a term. Undoubtedly this is a subject demanding attention. It is a practice to be discouraged in the main, for nearly always the student wishes to change schools during a term for reasons altogether selfish and discreditable to himself. Occasionally the right will be on his side, and if his record has been good, if all reasonable requirements have been met and the Dean will so certify, there is no just ground for refusing him admission to the same class in another school. It should be made impossible, however, for any work of importance, didactic, clinical or laboratory, to be evaded.

THE ADVANCED STANDARD OF ADMISSION.

There is a pretty general feeling, and it is frequently expressed, that this Association must advance its standard at the present session or it is in great danger of going to pieces. A spirit of magnanimity has been shown for some years by schools whose standards are in many respects ahead of the Association's requirements in the hope that an advance could be made with the hearty co-operation of nearly if not all members. This hope, I trust, has not been illusory. There has been little or no advance made in the Association's requirements since 1895, a long time in this somewhat remarkable era of progress. The result of it is that the Association, which was at one time the leader in medical education, now finds itself led by nearly all of the progressive commonwealths of the country. We are in a position that simply can not and should not continue. I have the greatest sympathy and respect for a small school with no endowment and moderate equipment endeavoring to and succeeding in doing excellent work, though sandwiched in between strong schools on one side and inferior (low grade) ones on the other, such a small school naturally may be slow to favor an advance, fearing that it will suffer thereby. But the fact of the matter is that in the past none of us has ever suffered as much by advancing the standard, as we feared, and do what we will there seems every year an increasing number of students that must go somewhere. There is, moreover, a better appreciation of the small, select school at the present time than ever before, on account of the superior clinical facilities offered toward classes and to sections in the laboratories. Large classes can not be handled so well now as formerly, and this fact is keenly appreciated by medical students. Therefore, it would seem that the best way for any school of precarious existence to increase its matriculation list is by advancing its standard and increasing its facilities. Every year it seems to me that students get to be more discriminating, and certainly every year there is a greater tendency for the better ones to shift from one school to another. One year ago I insisted that our faculty raise its fee to $150, and at the same time made it impossible for any reduction to be given on any account whatsoever. It was feared that it would seriously curtail our freshman class of 1902, yet it was much the largest we have ever had. (To those who can not see things in this light and believe that their schools can only continue under the present standards, I can only say that the way for honorable withdrawal is open to them, and while we should regret to see a single member of the Association leave it, we should prefer that many would go rather than see the Association refuse to do what all of the better schools want and ask for, and an overcrowded profession demands.) No one will deny that there are too many schools and too many practitioners in this country; there are more schools in one city than in the entire Empire of Russia.

How shall the standard be raised? First, the entrance requirements must be raised. Second, no advanced standing should be given to any one having a degree, unless it is demonstrably equivalent to the freshman year in medicine. Third, the session should be lengthened. Fourth, mid-year examinations should be encouraged. No one will question that the requirements for matriculation are far below what they should be. The time has come when this Association can not maintain the respect of the profession and the several state boards of examiners unless it requires a high school diploma, or its equivalent, of matriculants in a medical college. I am not prepared to go so far as the committee and demand that the diploma be from a four years' high school; for, desirable as that is, I fear that it would be requiring more than is feasible or right. In the State of Pennsylvania, for instance, there are 193 high schools, more than two-thirds of all the high schools in the entire state, with less than a four-year course. If such is the case in Pennsylvania, which is certainly one of the oldest, wealthiest, and most favored commonwealths, the conditions are not likely to be better in many states of the Union, but in most of them actually worse. It is not equity, I admit, to put on the same footing men with two, three and four-year high-school diplomas, and it is discriminating against the city boy who will necessarily go to the best high schools with the longest courses. If there must be a favored class it should be the country boys or those from small towns, for, as a rule, they begin school later, have less means, and finally will in all probability settle in the country, where less is required and expected of them. The boy raised in the city is pretty certain to remain there, where competition is sharpest, and he should, therefore, be prepared for it in every possible way.

To say that we will require a high school diploma without qualifications will, I think, be an enormous gain, and as long a step forward as the Association is willing to take. Personally, I favor the four-year diploma, but if we can get to that point in three or five years as an Association representing so many of the states, we will be doing very well. It is only fair to give reasonable notice that such rigid requirements will be enforced so that boys contemplating the study of medicine can prepare for it by taking a four-year high-school course. Therefore, I should say, advance at once to a high school diploma, and in either three, or at most five years, require a four-year diploma or its equivalent. An examination as outlined by the committee in lieu of a diploma should always be permitted. It is unfair and undemocratic to say that every matriculate must be the possessor of a diploma. If he has the knowledge entitling him to one, that is sufficient, and there may be the best of reasons why a student in every way worthy failed to get his degree. A bill, excellent in many respects and deserving of support, lay and professional, failed of passage by the recent legislature of Pennsylvania because it did not provide for an examination of those who were self taught, or at least without diplomas. It passed the lower house by a large majority and undoubtedly would and should have passed the senate but for this unfortunate and fatal omission.

ADVANCED STANDING.

The report of the committee appointed recommends "that credit for one year be given to students holding the degree of A. B., B.S., or other equivalent from a reputable university or literary college." The minority report would withhold advanced standing to those with baccalaureate degrees. I should prefer to take a middle course and grant advanced standing only to those who have specially fitted themselves for the study of medicine. No other course, in my judgment, so well

prepares one for a professional career as a two or three years' course in the biological sciences. I have never favored the idea of granting advanced standing for any cause whatsoever, and have believed it best to require four years in a medical school. I am quite sure, and in this belief nearly all concur, that it was a mistake to give a one-year credit to dentists, pharmacists and veterinarians; a majority of the schools have discontinued the practice. I have never known of many instances where such students were not greatly handicapped throughout their entire medical career. It would seem that there is less reason for giving one year's credit to a student with an A.B. degree. Under this ruling many schools are still granting advanced standing to even high school graduates, and are really giving only a three years' medical course. It was never, I think, contemplated by the Association that the present law would be so construed, but that it has been made very elastic, and an excuse for a short cut to a diploma in many instances, there can be no doubt. It may be safer, as the author of the minority report says, to give no advanced standing to any one, but in lieu thereof to allow credit for work actually done. This is the ideal method, I admit. Practically, however, we find the biological courses in most of the eastern colleges quite the equal in every way of the freshman year in medicine, and students with such degrees easily take their places in the sophomore class and acquit themselves creditably. I have never known one to fail in the final examination before his faculty, or before a state board. Such has also been the experience of Jefferson College. Such students come with a disciplined college training and, moreover, have what all others claiming advanced standing have not, a good knowledge of anatomy, both comparative and human. I know that the presidents of all the colleges in Pennsylvania have shown great interest in their biological courses and have designed them especially for those intending to study medicine. More than two years ago, when they were all invited to take part in a discussion before the Philadelphia County Medical Society, the subject of advanced standing being then a live one with the medical schools of Philadelphia and the Pennsylvania State Board, a good account was given by the colleges represented, and most of us were surprised at the completeness of their biological courses. Since then the schools of Philadelphia have not hesitated to admit such students to advanced standing, though denying it to all others.

LENGTH OF TERM.

I heartily endorse the recommendatior of the committee that this Association require as a minimum a seven months' term. Some of the best schools require nine, more eight and all should require at least seven months. The very proper action of the several state boards of examiners in demanding longer terms has made this advance absolutely unavoidable. I should prefer to see the term eight months instead of seven, as some of the state laws require it now, and others will do so very soon. This Association should lead and not be driven.

MID-YEAR EXAMINATIONS.

The time has come when this Association should encourage, if not require, mid-year examinations in writing, as is done by nearly all of the best literary colleges. Our frequent quizzes are all very well in their way, but do not prepare students for their examinations before state boards, which are invariably in writing. Men only learn to write good papers by practice, and if they were required to undergo written examinations twice a year instead of once, it is reasonable to suppose that by the end of their senior year they would present very much better papers and appear to greater advantage before the several state boards.

Every year I find the papers of the senior students much better in construction, spelling, etc., etc., than those of the juniors, which I can only explain in two ways: First, by their larger experience in written examinations; second, by the result being of greater moment to them. If the junior fails to secure a passing mark, he is conditioned; if the senior does not come up to the standard, he fails of graduation. This naturally indicates that the final examination of freshmen, sophomores and juniors should be, what they are not, as a rule, I fancy, even more rigid than the examinations of seniors. It is fairer and more just in every way to hold up a man and let him know where he stands before reaching the senior class. It is certainly most unjust to throw out a student at the end of his senior year for either bad writing, spelling, English, or all. This should be done when he applies for matriculation, and in the event of his shortcomings not being detected then, they certainly should be at the end of his freshman year. I do not teach the freshman or sophomores but the juniors and seniors, and each year I condition in surgery three times as many juniors as I vote against seniors. It is rarely the case that a conditioned man comes up lame the following year. Moreover, they are almost invariably grateful for the warning given, and meet their fate with a philosophy that a senior can not be expected to show. From an experience in four faculties during the past fifteen years I am led irresistibly to the conclusion that the senior examinations are *about* what they should be, but the examination of underclassmen is frequently little more than a sham.

In conclusion, I should say that the most pressing and needful reforms at present necessary are an increase in the preliminary requirements before matriculation, with better teaching and more rigid examination of underclassmen.

On motion of Dr. W. J. Means, the address was referred to a committee of three to report at the evening session. The chair appointed on this committee Drs. H. O. Walker, J. W. Holland and H. B. Ward.

(To be continued.)

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Gonorrheal Arthritis.

E. C. Hill, in *Med. Standard*, gives the following methods of dealing with arthritic joints due to gonorrhea, which have been prescribed by different authors:

Potassium iodid, grains 5 in a tablespoonful of water every hour or two.

Syrup of iodid of iron, dram one half, gradually increased.

Treat the focus of infection in the urethra.

Apply to the joint an ointment as follows:

R.	Ol. terebinthinæ		
	Acidi salicylici		
	Lanolini, āā	℥iii	12
	Adipis	℥iii	90

M. Ft. ung. Sig.: Apply locally.

An injection of mercuric chlorid solution is sometimes recommended as follows:

R.	Hydrarg. chloridi corros.	gr. i	.06
	Sodii chloridi	gr. x	.65
	Aquæ destil.	℥i	30

M. Sig.: Inject three to five hypodermic syringefuls into the joint at intervals of three days; or:

R.	Guaiacol	℥ii	8
	Olei olivæ	℥vi	24

M. Sig.: Apply to the skin over the affected joint four times daily.

Aspiration of the sero-purulent effusion, followed by compression of the joint and fixation of the limb in immovable dressing. Massage and hot and cold douches to aid absorption.

Ozena.

Voquier, in *Jour. des Pract.*, recommends, in the treatment of ozena, that the surfaces be thoroughly cleansed and the dried crusts removed by warm douches containing sodium chlorid, sodium bicarbonate, or lysol in solution, after which one of the following ointments should be applied by means of a swab or small brush:

R.	Menthol	gr. ivss	.30
	Acidi borici	gr. xxx	2
	Liq. petrolati	℥i	30

M. Sig.: Apply locally three times a day; or:

R.	Naphthol	℥i	4
	Resorcin	gr. xv	1
	Liq. petrolati	℥i	30

M. Ft. unguentum. Sig.: Apply locally; or:

R.	Diiodoformi	℥i	4
	Liq. petrolati	℥v	20

M. Sig.: Apply locally.

Some preparation containing iodin has always served a good purpose in these foul-smelling conditions. The iodin may

be applied as follows, after applying a weak solution of cocain to anesthetize the parts:

R.	Iodi	gr. v	30
	Pot. iodidi	gr. xv	1
	Aq. destil.	℥iss	6

M. Sig.: To be applied locally by means of a cotton swab or applicator.

Aperient for Pregnant Women.

Lutaud, in *Nouveaux Remèdes*, recommends the following combination to relieve the constipation of pregnant women:

R.	Olei ricini	℥i	30
	Syr. rhei	℥v	20
	Spts. frumenti	℥ss	15
	Essentiæ menth. pip.	m. ii	12

M. Sig.: To be taken at one dose.

Urticaria.

The *Medical World* recommends, in the treatment of urticaria, that the patient be placed on some combination containing calcium chlorid as follows:

R.	Calcii chloridi	℥ii	8
	Tinct. aurantii flor.	℥vi	25
	Aq. chloroformi q. s. ad	℥vi	180

M. Sig.: One to two tablespoonfuls to be taken three times a day.

In addition the patient should be instructed to take a bath containing soda or borax. The elimination from the bowels and kidneys should be carefully watched.

Pertussis.

Rothrock, according to an abstract in *Med. Standard*, advises, in the treatment of pertussis, that expectorants be administered in the catarrhal stage. He recommends the stimulating expectorants such as ammonia, scilla, senega, etc. Either the carbonate or chlorid of ammonium may be given.

In the second stage sedatives are indicated, such as belladonna, cannabis, indica, codein, passiflora and conium. The following combinations are recommended by the author:

R.	Tinct. belladonna	m. xxiv	1 65
	Sodii brom.	℥iii	12
	Syr. tolutani	℥iii	90

M. Sig.: Five to twenty drops at a dose.

The following containing grindelia robusta is also recommended:

R.	Tinct. grindelia robustæ	℥ss	15
	Spts. vini rectif.	℥ss	15
	Acetanilidi	gr. xxiv	1 65
	Syr. acaciæ	℥iii	90

M. Dissolve the acetanilid in alcohol and add to the other ingredients. Sig.: Ten drops to a child of one year; to a child of 8 or 10, the dose may be increased to 20 or 25 drops every two hours.

R.	Cochineal	gr. x	65
	Sodii bicarb.	gr. xii	75
	Pot. brom.	gr. xv	1
	Tinct. belladon.	m. xv	1
	Tinct. card. co.	℥i	4
	Aquæ cinnamomi	℥ii	60

M. Sig.: Twenty to thirty drops every four hours; or:

R.	Acidi hydrocyanici dil.	m. viii	50
	Tinct. ipecacuanhæ	℥i	4
	Syr. tolutani	℥i	30
	Aquæ	℥i	30

M. Sig.: Ten to twenty drops every three or four hours.

The author also recommends drosera as of value in relieving the paroxysm, given as follows:

R.	Ext. droseræ fl.		
	Ext. ipecac fl.		
	Tinct. nucis vomicæ, ää	m. v	30
	Aquæ q. s. ad	℥iv	120

M. Sig.: One teaspoonful at a dose.

Bromoform is also recommended in 2 to 4 drop doses. Ichthyol, one teaspoonful added to 4 or 5 ounces of water and used as an inhalation, is of service.

The author condemns the use of opium, substituting codein in doses of gr. 1/100 to gr. 1/32, according to the age of the patient.

If the patient vomits to any extent, cerium oxalate should be given, as it acts on the pneumogastric nerve.

He has obtained good results from passiflora incarnata as an antispasmodic, sedative, tonic and eliminant. It is a safe remedy given in teaspoonful doses of the tincture every two or three hours.

G. Macridés, in *Jour. de Med. Interne*, recommends the following formula in the treatment of whooping cough:

R.	Bromoformi	gtt. l	3 30
	Syr. belladonnæ	℥vi	25
	Aq. destil.	℥iii	90

M. Sig.: One teaspoonful three or four times a day for a child over six years of age.

Medicolegal.

Sodomy.—The Court of Criminal Appeals of Texas holds, in Almendaris vs. State, that under a charge of sodomy, carnal knowledge, such as is essential to the crime of rape, must be proved, though the jury may infer penetration from the circumstances, without direct proof. And the Court of Appeals of Kentucky holds, in White vs. Commonwealth, that, while the decisions have not been uniform, the drift of the later decisions in both the English and American courts is to hold that nothing more than *res in re*, without regard to the extent of the penetration or emission, is all that is required.

Insufficient Evidence of Practicing Without License.—The Supreme Court of Washington says that the acts constituting the practice of medicine charged in the case of State vs. E. Dunham were that at a certain time and place the latter "did wrongfully and unlawfully establish and maintain an office, and advertise the title of doctor" in a certain newspaper. No attempt at all was made to prove that he maintained an office, and the only evidence introduced as to the other fact was a paper containing an advertisement. Clearly, the court holds, there was here no proof of the crime charged, namely, the practicing of medicine without a license. As against the presumption of innocence, it could not be presumed from the mere fact that an advertisement appeared in a paper that it was authorized by the accused, nor would it be presumed that he was the person named in the advertisement, though the name therein and his name were the same.

Liability for Disease Resulting from Injuries.—In the personal injury case of Wood vs. the New York Central & Hudson River Railroad Company, where the decline of the party suing had been substantially uninterrupted, until consumption had supervened, ascribable to the shock and muscular strain of an accident, the Fourth Appellate Division of the Supreme Court of New York says it assumes that if there is a progressive, complete connection between any diseases and the injuries inflicted, such disease may be taken in estimation by the jury, as the party suing is entitled to recover for any damages which are the proximate result of the injuries. It is a matter to be determined by the jury, and the causal connection between the injuries and the existing disease must depend in a considerable degree on the evidence of physicians. The right to embrace in the recovery damages for an existing disease may not be lost by reason of the length of time which has elapsed between its discovery or inception and the infliction of the original injuries, nor on the character of the disease. The fact may be established that the disease was the result of the injuries; that the association of the two is by a direct line; and their connection is not to be based on conjecture or speculation. If their unbroken connection is thus demonstrated, then the cause of action of the party suing may include the disease.

Without Contract Town Not Liable for Medical Services.—The Supreme Court of Mississippi holds, on the appeal of the Town of Pass Christian vs. Washington, an action brought by the latter party, a physician, to recover for services rendered in treating four cases of smallpox and preventing the spread of the disease, that the whole case failed for the want of any valid

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contract for these particular services with the city. After the physician's discovery and reporting of these cases, the mayor directed him to do what was necessary, and the board of mayor and aldermen made an order that he be appointed health officer of the town, and be requested to take at once the necessary sanitary precautions for the general good of the health of the town. The Supreme Court says that this order was a mere appointment of the physician as a health officer, vesting him with the usual authority with respect to sanitary precautions for the good of the town. It was in no sense a contract to treat these four smallpox patients, and no other valid contract for that purpose was shown. Without a contract, it declares, there is no liability on the part of the town. And to much the same effect is the decision of the Supreme Court of New Hampshire in the scarlet fever case of Pettengill vs. the Town of Amherst. It says that the verdict of the jury established the fact that the services of the physician suing were not rendered at the request of the town, or under any contract with it therefor. The board of health did not employ, or attempt, as statutory agent of the town, to pledge its credit for his services rendered in this case. The board did not deem it "wise or necessary" to employ him in this case at the expense of the town, to use the words of the statute which provides that in cases of quarantine the board may render assistance when deemed wise or necessary. Whether there was a moral obligation, under the circumstances, resting on the board and the town to provide the party in question with medical attendance during the confinement of his family in quarantine, was immaterial in this action. The town could only be liable on a legal contract, which the case showed did not exist.

Libel on Physician in Board of Health Preamble.—The Ohio case of Mauk vs. Brundage and others was brought by a physician against the members of the board of health of a village for libel in causing to be published in a newspaper: "An order to prevent and restrict infectious diseases. Whereas, the board of health of the village of Delphos, Allen and Van Wert counties, Ohio, after careful consideration, has become satisfied that in said village a number of deaths have recently resulted from the carelessnesss and negligence of the physician attending the patients in childbirth soon after attending and handling other patients affected by blood poison and other infectious diseases, and that from the same cause others in said village have greatly suffered and barely escaped death: Therefore, it is hereby ordered by the board of health of the village of Delphos, Allen and Van Wert counties, Ohio, that no physician and surgeon or midwife or other person who has heretofore or may hereafter practice or attempt to practice medicine, surgery, or midwifery in any of its branches, shall within said village attend as physician, surgeon or midwife, or touch or handle, any woman in childbirth, nor perform any act of surgery, or touch the mucous membrane of any person within thirty days after such physician and surgeon, midwife, or other person practicing or attempting to practice medicine, surgery, or midwifery has touched or handled any person affected with blood poison, gangrene, erysipelas, or other infectious disease, except in continuing to treat his or her patients affected with the same, and no other infectious disease." The answer of the members of the board admitted the passage by them of the preamble and order as charged, and that the same was placed on the record of the board's proceedings, but averred that they passed the order as members of the board of health; that they had reasonable and probable cause to believe and did believe the facts stated to be true, and published the same under an honest belief that such publication was required of them in the due discharge of their official duties as such board, and denied that the same was published maliciously, or with any intent to injure the party suing. The Supreme Court of Ohio holds that the preamble, construed in connection with the order and the pleadings, was libelous per se, or by itself, and the publication of it was not privileged. It was the duty of the court to so instruct the jury, and not to submit those questions for their determination. On showing by a preponderance of the evidence that the preamble was published as charged, and that the party suing was the physician intended by the members of the board and understood by the community as such physician, he was entitled to recover at least such compensatory damages as were attributable to the publication. If, in such case, the evidence warranted a finding that in the passing and publication of such preamble some of the members of the board were actuated by express malice and others were not, and the jury should so find, it would be proper practice to render a verdict against all of the members for compensatory damages, and an additional amount as exemplary damages against those found to have been guilty of express malice. The result to be reached in the present instance, the court says, was the order providing for the conduct of physicians in the village. To reach this result, however imminent the duty of the board to pass and publish a proper resolution to correct the evil which it was assumed existed, it could not be at all important to charge negligence on the part of any physician. Not being essential, or even important, that the board should undertake to fix the blame on any particular person, it followed that the preamble was not a privileged communication, and that those who passed and published it assumed the responsibility as individuals, and could not shield themselves by merely showing that they acted as members of the board, and that the order itself was a proper one.

Current Medical Literature.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

July 4.

1 *Arterial Sclerosis as a Cause of Nervous Disease. M. Allen Starr.
2 *The Anatomy of Portal Anastomosis. Roife Floyd.
3 *Synopsis of Experiments on the Transformation of Circulating Uric Acid in the Organism of Man and Animals. Alfred C. Croftan.
4 How May We Cure Posterior Displacement of the Uterus? Augustin H. Goelet.
5 *Tenb Life for Consumptives. J. Edward Stubbert.

1. Arterial Sclerosis in Nervous Diseases.—The importance of endarteritis in the etiology of nervous diseases is insisted on by Starr. In 200 consecutive cases of apoplexy of which he has records in private practice, in 80 per cent. there were distinct prodromal symptoms which had been regarded at the time as neurasthenic, but which are more readily explainable under the law of malnutrition due to arterial disease. He thinks if the condition of the blood vessels and the heart muscles were thoroughly investigated for the possible existence of accentuated second sound, and the tension of the arteries not only in the wrist, but elsewhere, and the condition of the kidneys were studied, the so-called neurasthenia would be more apt to yield to treatment than by the use of remedies directed particularly to the nervous system. He also remarks that it is not so commonly known that the majority of diseases of the spinal cord are equally traceable to the vessel wall where direct infection is not shown. Vascular disease is found in poliomyelitis, bulbar palsy, myelitis, spastic paralysis, so-called senile paraplegia and combined sclerosis, all of which can be traced often to arterial degeneration. Diseases of the peripheral nerves are also occasionally due to endarteritis, as in case of alcoholic neuritis. The facts in regard to the occurrence of partial neurasthenia and prodromata of apoplexy also suggest the possibility that some minor nervous symptoms, spinal or otherwise, are possibly due to malnutrition of the brain from arterial disease. It is not sufficient to make a diagnosis of spinal neurasthenia in some of these cases; the possible underlying cause, endarteritis, etc., must also be considered. The various forms of neurasthenia may also be brought under this same etiologic category. He would not say that all nervous affections are due to this cause, but very many have it for a factor, and it should receive more attention in the management of these cases. The treatment of neurasthenia, neuralgia, spinal and hemiplegic symptoms also includes methods which have for their aim the establishment of an equable circulation. The ordinary treatment of arterial sclerosis by drugs he does not

consider very satisfactory. There is usually very great variation in the tension of the pulse, and while we can control this with various remedies, it is improper to keep such constantly employed. He has never observed in the treatment of Graves' disease a high-tension pulse. He thinks the thyroid secretion in the blood is responsible for this. This suggests the use of thyroid extract in the conditions of arterial disease. . He has found it of great benefit in managing temporary high pressures, and has also seen a certain amount of benefit from its use in chronic conditions, for which he prefers it to nitroglycerin. It should not be overlooked that many patients who have extensive arterial disease, with its symptoms, live to extreme old age, and this should be remembered in making the prognosis. Many persons also having the physical signs of extreme arterial sclerosis have no symptoms whatever. The underlying condition is one that may spontaneously subside or disappear under treatment.

2. **Portal Anastomosis.**—Floyd's article gives a description of the liver circulation in the fetus at term, the changes following at birth and the sites of anastomosis between the portal and systemic veins in the adult. The article is detailed and contains several schematic diagrams which aid in its comprehension.

3. **Uric Acid.**—Croftan has investigated the effect of uric acid injected into the system and how it is destroyed. His clinical conclusions are stated at some length. He finds that the watery extracts prepared from the kidney, liver, muscles, blood and spleen all destroy uric acid in varying degrees, and it is probable that these organs have the same effect during life by the aid of unorganized soluble ferments secreted. The proposition that uric acid is normally destroyed in the organism may therefore be considered answered in the affirmative by these experiments, and from analogy with certain animal experiments. Bulk for bulk, the kidney destroys more uric acid than the liver, the liver more than the muscles, the muscles more than the spleen and the blood. The fact that the kidneys normally destroy uric acid teaches that great care should be exercised in drawing conclusions from the plus or minus of the urinary uric acid excretion. The circulating urinary uric acid can not be considered as an index. It merely represents the algebraic sum of circulating uric acid and the uric acid destroyed in the kidneys. There is, therefore, always more of circulating uric acid than is indicated by the urinary uric acid excretion. Derangement of the liver function has been considered as a cause of uratic diathesis, more uric acid than normal being formed. It seems to Croftan that the derangement consists in inability of the liver to destroy the normal amount of circulating uric acid or the excess that is so frequently ingested. The power of the muscles to destroy uric acid may explain, as Wiener suggests, why exercise often relieves uratic symptoms. The accelerating effect of salicylates and dilute alkalies on the power of one of the uric-acid destroying bodies (the nucleo-proteid) to liberate oxygen, aids in explaining why these remedies are beneficial. The formation of oxalic acid from uric acid in the kidney may explain the clinical fact that in gout oxaluria is not infrequent, and occasionally the appearance of much oxalic acid in the urine is accompanied by a corresponding decrease in the uric acid. The formation of urea from uric acid demonstrates that uric acid is not a terminal product, but an intermediate one between certain albumins and urea—the old view slightly modified. Much that has been written on the urea-uric acid ratio is sheer nonsense. There is much experimental evidence to show that the function of certain organs that destroy uric acid is also to destroy fats and sugars. Inadequacy of this triple function would lead to the accumulation of fat, of sugar and of uric acid, pointing to the pathogenic relationship between obesity, diabetes and the uratic diathesis, all characterized by accumulations in the blood and tissues of bodies that should normally be destroyed.

5. **Tent Life for Consumptives.**—Stubbert insists on the value of tent life giving free ventilation which can not be supplied in the winter by sleeping with the windows open, excepting in very exceptional cases where the room has a southern exposure and there are windows on three sides. Tent life furnishes the conditions needed and should be made as comfortable as possible. For the summer months hardly anything more than a sheltering roof will be required, but in the winter in the colder regions something more substantial is needed, such as a conical tent with perfect ventilation in all kinds of weather. He advocates the erection of tents in connection with hotels and summer resorts. The great value of the open-air treatment is its cheapness combined with its demonstrated efficacy. The best site for a tent is not in a forest, but on the edge of a wood where the patient can have the full benefit of sunshine and free circulation, with shade within reach and protection from the colder winds.

American Medicine, Philadelphia.

July 4.

6 *The Occurrence of Painful Affections of the Feet Among Trained Nurses. Robert W. Lovett.
7 *Sixty-eight Reasons why "Glasses Did Not Give Relief." George M. Gould.
8 *Funnel-chest, with Report of Two Cases. Florence H. Richards.
9 *The Early Diagnosis of Pregnancy. J. J. Gurney Williams.
10 *Hemorrhage Following Tonsillotomy, with Report of a Serious Case. Adolph H. Urban.
11 What Are the X-Rays? J. Rudis-Jicinsky.
12 The Medical Institutions of Madrid. Nicholas Senn.

6. Painful Affections of the Feet.—The frequency and severity of affections of the feet among trained nurses have been studied by Lovett, who details his methods of treatment and offers his conclusions as follows:

1. It has not been possible to tell, with any certainty, by examination whether or not the feet of an individual are likely to give trouble. The only reliable information obtained in these cases was given by the imprints seen through glass. A foot with a well-distributed pressure area seemed rather less likely to give trouble than one resting on two islands: the degree of pronation, the condition of the circulation, the relative weight of the nurse, and the dorsal flexibility of the foot all proving of little or no value as elements in prognosis. A flat foot may be perfectly serviceable, as may also a severely pronated one, while an apparently well-balanced foot may become painful.

2. The factors in causing the trouble among the nurses were to be sought rather in the general conditions than in any special conformation of the foot. It followed, in many cases, illness and other conditions causing muscular debility. It occurred in most cases from two to three months after entrance, and it began most often in the early spring, when the nurses had been indoors all winter, and least often in the fall.

3. The trouble was caused by a rolling in of the foot and a shifting inward of its weight-bearing areas and not in any case observed by a breaking down or even lowering of the arch.

4. Although proof by figures is lacking, it is probable that the amount of trouble has been decidedly less than it would have been without the use of a proper boot.

7. **Why Glasses Do Not Give Relief.**—It is naturally impossible to detail all of the sixty-eight reasons with their bases as here given by Gould. He emphasizes, however, the defects of the physician in refraction work, which he claims requires a special adaptability, perfection of methods and appliance, care in determining the relative amounts of astigmatism, etc., and the proper methods of examination. The necessity of wearing the right kind of glasses and seeing that they are properly adjusted are emphasized. For further details the reader is referred to the article.

8. **Funnel-Chest.**—Two cases are reported by Richards, one of which was extreme. This form in which the entire sternum is depressed is rare. There is always a congenital deformity and treatment is practically unavailing.

9. **Pregnancy.**—The most important signs of early pregnancy, according to Williams, are change in the shape of the uterus from the pyriform to more spherical shape, the softening of the lower uterine segment, which is not always reliable, the bluish discoloration of the vagina, which he thinks is of considerable value, the lowered cervix and the increase in the weight of the uterus and its lessened mobility. In conclusion some remarks are made on the recognition of ectopic pregnancy.

10. **Tonsillotomy.**—The point of interest in the case reported by Urban is that complete exsanguination resulted from tonsillar hemorrhage following tonsillotomy, bleeding from the nose, lungs and stomach being excluded by careful examination. The occurrence of such severe bleeding in children is rare, and there was here probably an anomalous tonsillar or internal maxillary artery. The case indicates that one should be prepared for such complications.

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Boston Medical and Surgical Journal.

June 25.

13 *Surgical Tuberculosis. (To be continued.) Herbert L. Burrell.
14 *The Blood in the Typhoid of Children; a Clinical Study. Frank Spooner Churchill.
15 *The Cure of Cancer by Use of the X-Ray. H. W. Van Allen.
16 A Case of Strangulation of the Testis Due to Torsion of the Cord. Arthur T. Cabot.

July 2.

17 *Surgical Tuberculosis. (Concluded.) Herbert L. Burrell.
18 *The Clinical Associations and Significance of the Cardiopulmonary Murmur. James J. Putnam.
19 Nasal Polypi: A Study of 147 Cases. J. Payton Clark.
20 Septic Endocarditis. A. W. Dudley.

13 and 17.—**Surgical Tuberculosis.**—Burrell accepts the view that about 80 or 90 per cent. of adults at the age of 40 have been affected in one way or another with tuberculosis. The infection is a universal one. The fatality of the disease, however, is decreasing. The surgical type itself is most frequent between the ages of 10 and 30 years of age according to Leonte. It is clear that the majority of individuals are able to conquer the disease; it is not as malignant in character as has been alleged. He discusses at some length the pathology and the principles of treatment, which are physiologic rest and improvement of the powers of resistance of the individual. Naturally sanatorium treatment is discussed at some length, and he describes the methods and makeshifts which have been utilized, and criticises the ordinary hospital construction in some respects for this disorder.

14. **Typhoid in Children.**—The conclusions of Churchill's article are that the blood in infantile typhoid differs from that of adults only in degree. There is a reduction of the erythrocytes, especially during the first three weeks, with subsequent increase, reaching normal on the fifth week. The hemoglobin suffers more, proportionately, than the erythrocytes. The leucocytes are reduced throughout the first four weeks, the lowest average being reached during the second week excepting in severe cases. Leucopenia is of diagnostic value, especially in children, in whom most febrile affections produce a leucocytosis. We need more data to determine the relative proportion of the different varieties of leucocytes in the different groups, the greatest variation being in the polymorphonuclears and mononuclear elements, the latter increasing and the former diminishing with the disease. The increase in mononuclears is chiefly in the lymphocytes.

15. **Cancer and the X-Rays.**—Van Allen insists on the importance of the selection of apparatus, favoring the use of a coil rather than a static machine; the proper selection of tube; care as to inflicting burns, either on the operator or the subject; the frequency of treatment; the length of exposure, etc. In many cases he finds the combination of removal by cutting and radiation the best course. He briefly mentions other uses of the rays, such as for lupus erythematosus, epilation and pustular eczema of the lip; reporting cases.

18. **Cardiopulmonary Murmur.**—This murmur, which has been considered as indicating some unusual relationship of the heart and lungs, has been found by Putnam to be more frequent among neurasthenics than among other classes. His observation suggests that it is not impossible that it is a disease due to some abnormality or defect of the innervation by which the action of the heart is brought into relation with that of the lung. The explanation of the phenomenon is easier if we assume that the regulator mechanism governing the lung tension or tension of the vessels has been damaged and the relation between the two has become defective. He does not claim this as an adequate explanation, but one that may possibly assist in obtaining a satisfactory one.

New York Medical Journal and Philadelphia Medical Journal (Consolidated).

July 4.

21 *Intravascular Antisepsis. (To be concluded.) Charles C. Harrows.
22 *A Simple Method of Appendectomy. Emil Ries.
23 The Hookworm Disease in Alabama. E. D. Bondurant.
24 *Gonorrhea Insontium, Especially in Relation to Marriage. (Concluded.) Prince A. Morrow.
25 *Perineal Partial Prostatectomy. Weller Van Hook.
26 *The Treatment of So-called Diabetic Gangrene of the Extremities. Howard Lilienthal.
27 *The Diagnostic Value of a Proctoscopic Examination in Proctitis, with Some Remarks on that Affection. Herman A. Bray.
28 *A New Method of Drainage in Empyema. Samuel Lile.
29 Black Chromidrosis with Hysterical Paralysis. James W. Putnam.

21. **Intravascular Antisepsis.**—Barrows defends the use of intravascular antiseptics, claiming that experiments made on rabbits with unfavorable results do not invariably represent the conditions in the human subject. Much stronger solutions of formaldehyd have been used by Jenks of Memphis, Nelson of Virginia and Maguire of London in the treatment of pulmonary tuberculosis, without harm. His own experience has borne out their conclusions, and he is satisfied that one need have no fear of trouble in this direction. His technic is described. A freshly-made 1 in 5,000 solution of formalin (40 per cent. formaldehyd) and freshly prepared normal saline solution at a temperature of 100 is injected into a superficial vein, care being taken to have the nozzle in the vein and that air is prevented from entering. The fluid should be slowly injected, the amount depending somewhat on arterial tension and the general character of the pulse. He reports four cases in this installment of his article, which is to be concluded in a future number.

22. **Appendectomy.**—A simple method here described by Ries consists in freeing the appendix from the mesoappendix down to the cecum, then cutting it off about one-third of an inch from its base, inserting a suture with a round straight needle into the lumen of the stump, passing it out about one-sixteenth of an inch below its end. Then the needle is introduced into the lumen of the stump and carried out through the cecum externally about an inch from the base of the appendix. Traction on this thread inverts the appendix into the cecum and the serous funnel of the inverted appendix is then sutured. The thread which has drawn the appendix into the gut is then cut off close to the surface of the cecum and rubbed into its lumen. The mesentery is then sutured in such a way that its stump covers the suture of the appendix so that no raw surface or foreign body remains in the peritoneal cavity except the last knot of the catgut. The perforation of the bowel by a needle is, he claims, perfectly harmless. It is completely closed by rolling the bowel between the fingers. Another possible objection is that the inversion would be impossible where there is a stricture or obliteration of the appendix. This, however, might be overcome by simple perforation of the obliteration or stretching of the stricture. He has never had any trouble as a consequence of the use of this method, which he prefers to others, and has employed in 21 cases. The whole operation takes less time to perform than to describe it, as can be seen by three cuts.

24.—See abstract in THE JOURNAL, xl, p. 1602.

25. **Perineal Partial Prostatectomy.**—Van Hook operates somewhat on the plan of Zuckerkandl, making a transverse incision in the perineum about an inch in front of the anus, not over an inch to an inch and a quarter in length. He then makes a median incision into the membranous portion of the urethra, in this respect differing from Zuckerkandl, who continues the transverse cuts. The point of the knife, under the guidance of the finger, is introduced into the urethra and into the groove of the staff and pushed forward. An opening of the desired size is made, usually about three-fourths of an inch in length. The bladder is then completely explored with the finger, and it is always necessary to empty it to do this thoroughly, and possibly to have an assistant push it down from above. Next the prostate, the median and lateral lobes are carefully examined, which can be better done with the finger within the bladder than in any other way. Next the finger is removed from the urethral wound, and the lateral lobes are palpated through the capsule, passing the finger outside the urethra between the lateral halves of the levator ani until the commissure of the prostate is reached, when the finger is passed over each lateral lobe in succession. Usually the right half of the prostate is first operated on. It may be necessary to cut the capsule enough to facilitate penetration of the prostate with the finger. The finger is then swept around the main mass of prostatic tissue, the operator

keeping his mind on the preservation of the capsule. The masses which have been loosened are removed with a stone forceps or the hysterectomy volsella forceps of Richelot. It may be necessary to draw down the uppermost part a little with the tenaculum forceps. The left half can generally be removed in the same manner and the median lobe can almost invariably be removed without opening into the bladder. In case of excessive fibrous character of the mass, making the enucleation process of the finger difficult, Van Hook has devised a sort of scissors-like instrument for morcellating the organ. It is only a matter of convenience to use this, as curved scissors can also be used. Having removed as much of the prostate as seems necessary, he introduces a drainage tube into the bladder about the size of a finger, suturing it to the skin of the perineal wound. Two strips of gauze, one on each side of the tube, are then inserted into the space previously occupied by the lateral lobes. The after-treatment is important. The gauze strips are left for twenty-four to thirty-six hours, care being taken not to disturb the drainage tube in removing them. The drainage tube is left for a much longer period, three or four days to two weeks. A smaller tube may be substituted for a time. The fistula is usually a little slow to heal, but if sounds are introduced twice a week, and if exuberant granulations are kept down by passing a probe armed with silver nitrate along the fistula, there is no difficulty about the eventual closing. The patient should not be required to lie continuously on his back, but after the first twenty-four hours should be turned from side to side, thus facilitating closure of the wound. He thinks the advantage of this partial prostatectomy is that we are less liable to do damage to the other structures. From his experience he thinks the anterior parts of the gland may be easily left, but further experience may be required to decide how much to leave. Probably a diminution in the size of the remainder of the prostate may be anticipated after partial intracapsular prostatectomy. Usually the lateral and posterior parts of the gland are the cause of the trouble, and operation may be reasonably confined to them. He reports a number of cases illustrating the success of the operation.

26. **Diabetic Gangrene.**—Lilienthal divides these cases into three groups according to their urinary and symptomatic indications: Group 1, general condition good; no acid intoxication; sugar much or little; one or two toes or fingers affected with or without phlegmon, but not threatening usefulness of the member. In these cases the treatment should be conservative, the affected fingers and toes removed and the plegmon drained by the freest incision and the wounds packed; wet dressings applied, tendon and fascia being allowed to slough away. Group 2, general condition good; no acetone or diacetic acid in the urine. Local condition threatening the usefulness of the member. Here the ablation of the limb high above the upper level of the disease is the proper course. If the disease is in the foot, it is best to make the amputation well above the knee. In the upper extremity, however, amputation need not be above the elbow for gangrene of the hand. Skin and muscle flaps instead of mere skin flaps should be used. Group 3, general condition poor or comparatively good. Much or little sugar; acid poisoning present. Disease threatening or not threatening the part. In these cases treatment must be palliative until the acid poisoning and its impending coma shall have disappeared. If this can not be brought about, the prognosis is poor and should deter us from radical operation. This does not mean, of course, that drainage should not be used. On the contrary, free incision of the tissues impeding free evacuation of the phlegmonous spaces must be practiced in any event, but no more than is absolutely necessary should be done, and no radical operation. He remarks on the change in treatment that this form of gangrene has undergone within the last fifteen years owing to our more improved clinical methods of testing the urine for acetone, acetoacetic acid and total ammonia.

27. **Proctitis.**—Two cases are reported by Bray and discussed. He insists on the importance of digital examination in case of chronic diarrhea which will detect polyps, ulceration and impactions. The next in importance is the use of the proctoscope. With it in a proper light the entire circumference of the bowel can be seen. He puts the patient in the Sims position, oils the tube and slips it through the sphincter while the patient is straining. When it has been introduced about three inches in the bowel, atmospheric inflation will lift the walls out of contact, and the direction of the tube can be observed as it is passed up in the sigmoid flexure. When fully introduced it is gradually withdrawn and the whole gut thoroughly examined. It is important that the diagnosis should be made early for proper remedial measures to be employed. The first thing to do is to remove the cause. The local treatment consists in antiseptic and astringent injections. If there is any local disease, this, of course, should be first attended to.

28. **Drainage in Empyema.**—Lile describes a new drainage tube of hard rubber with a cup-shaped funnel on each end, bent at an angle a little greater than a right angle. The short arm is inserted into the pleural cavity. The longer arm is flattened to hold it in place. It can not slip either in or out and drains perfectly. Irrigation can be done through it with perfect ease. With this drainage tube he sees no reason for resection of the ribs, excepting in cases with sinuses existing for months after removal of the tubes, or in certain tuberculous cases.

Medical News, New York.

July 4.

30 *The Struggle of the Body Against Tuberculosis and Its Immunization. Edoardo Maragliano (Genoa).
31 *Tuberculosis in the Tenements; a New Use for Fire Escapes. Alfred Meyer.
32 Societies for the Prevention of the Spread of Tuberculosis; the Necessity of Such Organizations and the Work to Be Accomplished by Them. F. M. Pottenger.
33 The Sanatorium Treatment of Tuberculosis. Herbert M. King.
34 Tuberculosis of the Middle-ear, with the Report of a Case. Z. L. Leonard.
35 *The Present Status of Some of the Problems of Tuberculosis. John L. Heffron.

30. **Tuberculosis.**—Maragliano's article has already been reviewed at some length in these colums, p. 67.

31. **Tuberculosis in the Tenements.**—The suggestion made by Meyer is that the fire escapes be utilized for the open-air treatment of tuberculosis in tenement houses, and he gives illustrations. There is one difficulty in the way, and that is the section of the building code which prohibits placing encumbrances on any of the fire escapes, but he thinks this is practically disregarded. He believes that public opinion will justify the use of fire escapes for the preservation of life from the ravages of tuberculosis. They are available in most tenement houses in the large cities. He points out their advantages in the way of open-air, shelter, or the easy possibility of such, etc.

35. **Problems of Tuberculosis.**—Heffron notes the overthrow of the importance of heredity in tuberculosis, the importance of infection and the remedial value of producing a soil that is resistant. He says the decrease of tuberculosis has been very marked and, as regards bovine infection, he holds that the burden of proof is on Koch's side and he will be required to show to the perfect satisfaction of others that infants are never infected by the use of milk of tuberculous cows. The diagnosis of tuberculosis is practically impossible in its incipient stages. The fact is that most persons have probably suffered from it to some degree, and he does not see how we can escape the view of Welch that with proper search almost universal infection must be admitted. As regards the methods of diagnosis, he thinks accurate thermometry is one of the most important, while the tuberculin test is also reliable if properly used, and is not injurious. The present status of prognosis shows a marked change from twenty years ago. Throughout the world the number of deaths from tuberculosis is decreasing, England heading the list. The percentage of cures in the various sanitariums and so on shows the tractability of the disease under proper care. The prognosis is better the earlier the disease is recognized. The immunity question is noted, but Heffron is not prepared to admit that immunizing injections can yet be safely used on man. In the treatment there are certain general principles: faith in the

curability of the disease, and not so much the attack on the bacillus as the strengthening of its host by open-air treatment, etc. Recoveries from tuberculosis are far more frequent than those from insanity, as he shows by comparative statistics.

Cincinnati Lancet-Clinic.

July 4.

36 Tubercular Peritonitis in Childhood. Alfred Friedlander.
37 Chloride of Sodium. Brose S. Horne.
38 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

St. Louis Medical Review.

June 27.

39 The Wertheim Operation for Cancer of the Uterus: Report of a Case. H. S. Crossen.

Medical Age, Detroit.

June 25.

40 *Operative Treatment of Glaucoma. W. A. Harper.
41 Ovulation and Menstruation. O. W. Hunter.
42 A Case of Continued Development of the Fetus in Utero, After Rupture of the Membranes and Escape of the Liquid Amnii. H. W. Chapman.

40. Glaucoma.—The only treatment for glaucoma, Harper holds, is iridectomy, though he sees a possible future for Jonnesco's operation.

American Gynecology, New York.

June.

43 *The Conservative Operative Treatment of Chronic Inversion of the Uterus. Reuben Peterson.
44 *The Present Position of Hysterectomy for Fibroids. Skene Keith.
45 The Treatment of Fibroid Tumors of the Uterus. Archibald McLaren.
46 A Plea for the Removal of a Minimum Amount of the Board Ligament in Salpingo-oophorectomy. J. Wesey Bovée.
47 *The Vaginal Incision in Sepsis Following Abortion. Hunter Robb.

43. Chronic Inversion of the Uterus.—Peterson describes a case operated on by the vaginal method, splitting the uterus and replacing it. He asks why, in cases of chronic inversion with our present knowledge, we should not in any given case disregard the old methods of reposition and at once employ the more modern, safer and surer surgical methods. The elastic pressure method is uncertain and dangerous and may increase hemorrhage, which the patient can not afford. The same is true to a greater degree of taxis. This is not the less true because of the fact that spontaneous reposition has taken place. The safest way is some form of incision operation by the vaginal route.

44. Hysterectomy for Fibroids.—The position held by Keith is a conservative one in the main. It is impossible to lay down positive rules for hysterectomy. The age of the patient, surroundings, etc., should be considered. In the following cases, however, he says we can safely say that hysterectomy ought to be the rule. In all fibro-cysts, in all edematous tumors when accompanied by profuse watery discharge, in large tumors causing symptoms, that is those reaching up to the ribs, and when the patient is under 50 years of age, and even over that age, it may be worth while to have a large tumor removed. In small tumors extending not higher than the umbilicus, fibro-cysts and edematous tumors excepted, he would advise the Apostoli treatment which he has, in fifteen years' experience, found to be valuable in reducing the growth, and causing early menopause in the great majority of cases of fibroids where the growth is not submucous, without danger to the patient. He does not hold that electricity, even in case of small tumors, is always the best treatment, because the risk of hysterectomy is so slight.

47. Vaginal Incision in Postabortive Sepsis.—Robb finds that in the majority of cases the infection begins in or near the external genitals, successively implicating the vagina and cervix, the uterus and fallopian tubes and finally reaching the peritoneal cavity. His method of treating these cases is to dilate the cervix, curette the uterus either with the finger or finger and curette combined, wash it out with hot saline solution and 2 ounces of peroxid of hydrogen, then cleanse again with hot saline solution and sponge dry. Two or three drams of iodoform powder are then carried into the cavity, and it is packed with strips of sterile gauze. He then makes a free opening into the cul-de-sac, and after evacuating any fluid that may be present, irrigates it freely in the same way as has been done with the uterus. Then two or three drams of sterile iodoform powder are dusted in the cul-de-sac, which is filled with strips of sterile gauze. By this method he claims that we prevent future absorption of toxins from the cul-de-sac, save the fallopian tubes and ovaries by preventing adhesions which would almost inevitably form as a result of the organization of the exudate. He gives in conclusion the bacteriologic and clinical history of 10 cases of septic infection thus treated.

Wisconsin Medical Journal, Milwaukee.

June.

48 *Nephritis, Its Diagnosis, Particularly of Atypical Forms, and Some Points in Its Treatment. Arthur R. Edwards.
49. *The Moist Dressing in the Treatment of Compound Fractures. Charles H. Lemon.
50 A Case of Bromoderma Pustulo-Tuberosum. M. Milton Portis.

48. Nephritis.—The chief conclusions of Edwards' article are given in substance as follows: Carefully repeated routine chemical and microscopical examination of the urine every twenty-four hours usually, but not invariably, detects acute and chronic nephritis, if aided by examination of other viscera and parts, such as disclosure of cardiovascular changes, retinal involvement, etc. The visceral or somatic changes, usually present in nephritis, may be lacking in such cases and be capable of other interpretation, such as polyuria, atheroma, etc. The most essential urinary findings may be lacking and we may still suspect nephritis, even after negative results. Nephritis may be unattended by albuminuria. It is then usually interstitial in type, though chronic parenchymatous nephritis, acute nephritis and chronic interstitial nephritis, as well as the type described by Dr. D. D. Stewart, may also occasionally occur. Casts should always be searched for. They sometimes seem to indicate a degeneration rather than an inflammation, and are not invariable in nephritis nor are they invariably nephritic. Further clinical caution and pathologic examination will probably increase the number of cases of non-albuminuric renal inflammation of acute, subacute and chronic types. The non-albuminuric nephritis of the Stewart type is of special importance in life insurance and in practice, since prophylactic measures may be instituted and the prognosis affected. Uremia may be easily confused with organic brain lesions, and vice versa. Every type of focal brain lesion is simulated, and it may, moreover, coexist with brain disease. In treatment rest to spare the kidneys and save the heart is of prime importance. Rest applies to nervous strain as well as to physical work. The diet should not irritate or tax the kidneys in its elimination. Nutrition requires individual study; the classic diet must be abandoned when there is loss of weight or increasing anemia. Edema is poorly managed by diuretics; catharties too often threaten assimilation and nutrition; sweats tend to concentrate the blood and rather favor uremia. Mechanical drainage is the best procedure, since it removes not only the fluid, but the contained impurities, avoiding their repassage through the already surcharged blood and damaged kidneys. The condition of the heart and the efficiency of response to cardiants is often the main thing in the prognosis and treatment.

49. Moist Dressings in Compound Fractures.—The moist dressings here described by Lemon consist in the application of hygroscopic gauze moistened or wrung out of water or an antiseptic solution, and applied to the skin or wound surface, its evaporation and consequent drying prevented by its being covered with some impervious material like oiled silk or gutta-percha tissue. Its hygroscopic character promotes absorption of the wound secretion, distributes it evenly and prevents its accumulation in the wound. It stimulates the regional capillary circulation in the cut surfaces and induces a vigorous blood current which mechanically washes out the wound and brings an abundance of blood tissue to the threatened area, the best antiseptic, provided the infective material is not too excessive. In treating compound fracture he would introduce a bit of gauze or some strands of catgut through the wound for a drain. Such a wound properly treated has no swollen or everted edges, no redness, no sloughing surfaces, no tension,

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pain or fever. This is the ideal result. If we know that infection is absolutely absent a dry dressing would be better, but we can not be sure. Illustrative cases are given.

Pennsylvania Medical Journal, Pittsburg.

June.

51 *The Wisdom of Removing All of the Tonsils Whenever Enlarged and Diseased. Louis J. Lautenbach.
52 *The Use and Abuse of Radiotherapy. George C. Johnston.
53 On the Management of Rectal Diseases. William M. Beach.
54 The Abuse of Drugs. G. O. O. Santee.
55 And Then. (Consideration on Medical Policy.) Z. B. Taylor.
56 Clinical Report of a Case of Typhoid Fever in a Seven-Months-Old Infant. A. W. Clouse.
57 A Case of Gastric Crisis of Tabes. Frank H. Murdoch.

51. Tonsillectomy.—Lautenbach holds that enlarged tonsils are always a menace to health, and unless there are unusual complications, should be removed. The operation is not difficult and seldom has serious results. It is attended with increased health, better respiration and improved digestive function; there is less liability to microbic disease, especially diphtheria, and the nasal catarrh will be improved. The lymphoid structures in the pharynx will disappear; the tendency to ear disease is diminished and there will be no more tonsillitis.

52. Radiotherapy.—Johnston holds that there is only one way to become a good radiotherapeutist, and that is by experience. Every tube must be studied by itself. It should be seasoned by a course of radiographic work before it is used for treatment. The same tube acts very differently under different circumstances. After a man has used one for a while he learns its peculiarities. The low vacuum is more dangerous in inexperienced hands, but the hard tube is not much safer. It is not necessary to burn the patient, and if proper dosage or suitable radiation has been administered the healthy tissues suffer very little. The pathologic tissues, however, slough or are absorbed. The danger of desquamative dermatitis is an ever-present one whenever radioscopic inflammation exists. We must be especially careful in operating around the tongue, pharynx and lips on account of the difficulty of giving outside drainage and danger of swallowing of the irritating secretions. The cumulative action, with the long period of incubation, must not be lost sight of, and idiosyncrasy should be considered. The so-called strawberry blondes are peculiarly susceptible to *x*-ray burns or dermatitis. He claims that treatment, with proper management and skill, of the various forms of skin lesion is very satisfactory, but the man who wishes to apply it should study his apparatus and his patients and select them carefully. He should avoid routine measures.

Archives of Otology, New Rochelle, N. Y.

June.

58 *The Limits of Variation in the Depth of the Mastoid Antrum. Philip D. Kerrison.
59 Intradural and Later Double Cerebral Abscess Complicating Chronic Tympanic Suppuration; Operation; Cure. B. Alex. Randall and Barton H. Potts.
60 Osteomyelitis of the Skull, with Empyema of the Nasal Accessory Cavities; Sinus Thrombosis; Pyemia; Death; Autopsy. Arnold Knapp.
61 *A Discussion on the Differential Diagnosis and the Treatment of Osteosclerosis of the Mastoid Process. Otto J. Stein.
62 Three Cases of Encephalitis in Connection with Otitis Media. Dr. Voss.

58. Depth of the Mastoid Antrum.—From measurements and facts adduced, Kerrison thinks we are justified in saying that in operations on the mastoid process the antrum should be approached from the nearest point of the mastoid cortex which, in the great majority of cases, is a small triangular space just behind the spine of Henle. This point of attack not only furnishes a guide to the site of the antrum, but also affords fairly accurate data in regard to the depth beyond which it is not safe to proceed. The depth of the antrum is always less than the length of the postero-superior wall of the meatus; in the great majority of bones it is not over 12 mm., is often very much less, and never greater than 15 mm., or ⅝ of an inch. Therefore, in surgical attempts to expose the antrum, ⅝ of an inch should be regarded as the extreme limit of safety.

61. Mastoid Osteosclerosis.—The diagnosis of this condition is discussed by Stein, who quotes largely from authorities. He points out the possible differentiation from hysteria and neuralgias from other causes, such as syphilis, reflexes from diseased teeth, nasal and laryngeal disorders, etc. In hysteria we have the characteristic mental condition and symptoms. Pain is more frequently located in the auditory canal, and is also referred to the temples. It is greatly affected by the mental condition. The history, heredity, etc., should also be considered. In syphilis the history of infection and the characteristic nocturnal pains are usually sufficient. The pain of neuralgia shoots in the direction of the nerve trunk and its branches. The symptoms of osteosclerosis are largely centralized throughout in pain. There may be nothing objective whatever to be noticed, though we may discover a slight redness and edema and possibly a spot on the line of the meatus that elicits a sharp sensation of pain. The pain is continuous, lasting over long periods with only remissions, and very seldom intermissions and with frequent exacerbations. There may be some rise of temperature in the early stage and deafness. The fact, however, that this nagging, constant pain may develop a neurotic disorder should not be forgotten. While local treatment, such as rubefacients, etc., may be employed in the early stage, surgical treatment is the important part of the therapeutics and authorities seem to agree as to its benefits. In operating, the object is to relieve the bone tension, and we should remove as large a core of bone as possible with clean, smooth edges and surface. In conclusion, he urges the recognition of a broader field for surgical intervention in affections of the temporal bone.

Illinois Medical Journal, Springfield.

July.

63 A Sociologic View of Criminal Abortion. W. J. Fernald.
64 *The Practical and Scientific Value of Bacteriologic Examinations of the Blood During Life. Ludvig Hektoen.
65 Educational Influences and Opportunities of Our Civil Courts from a Medical Standpoint. O. B. Will.
66 *The Diplococcus Scarlatinæ. W. J. Class.
67 Sewage Disposal for Inland Towns. Arthur N. Talbot.
68 Successful Removal of a Cystic Fibro-myoma of the Uterus Weighing 87 Pounds. J. Clarence Webster.

64. Bacteriologic Examinations.—Hektoen points out the advantages of bacteriologic examination of the blood during life, and describes the technic, the making of cultures, etc., and reports instances of its value. His conclusions are that bacteriologic examination of the blood by modern methods has proved of scientific and practical value in septic diseases, in septicemia, in pneumonia, and especially in typhoid and paratyphoid fevers. The etiologic diagnosis, that is, recognition of the exact disease, requires the application of practical medicine or laboratory methods, which, however, will be more and more facilitated for private use by the physician in his office.

66. Diplococcus Scarlatinæ.—Class argues for the characteristic value of the diplococcus, which he says usually appears as a very large diplococcus, at least four times as large as the ordinary staphylococcus. It occurs in about 90 per cent. of cultures if made early in scarlatina, and can, as a rule, be easily differentiated from other large cocci. It may happen, however, that we may have cultures on blood serum giving but small staphylococci. The negative result is due either to the change of form of the germ or that it does not take the stain. These difficulties will seldom occur with his earth agar. It is also a good plan when primary cultures fail to show the typical diplococcus to isolate the germs in cultures by means of the plate method when the cultural characteristics of the organism, such as its glutinous character, and the fact that it does not affect milk in its growth, will prove of great aid in its recognition.

Atlanta Journal-Record of Medicine.

June.

69 *Uncinariasis (Ankylostomiasis); Its Frequency and Importance in the Southern States. H. F. Harris.
70 Post-operative Treatment of Six Cases of Abscess of the Appendix, with Some Observations on the Use of Large Doses of Strychnin for Ileus. R. M. Harbin.
71 The Treatment of Stricture of the Anterior Urethra. W. L. Champion.
72 Medical Jurisprudence. James R. Cain.

69. Uncinariasis.—Harris gives an account of this disorder as it occurs in Georgia, especially in the towns along the Georgia Southern and Florida Railway. His findings agree with those of Stiles. He notices the difference between the disease

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when due to American and the old world species, the lack of petechial spots, etc., and suggests that the *duodenale* type may be the more severe form of infection. He has never found Charcot-Leyden crystals with the eggs, though they are said to be invariably found in the stools of those affected with the European malady. No disease so grave as this can be cured with such rapidity and certainty. He has never seen a case where complete expulsion of worms was not secured if the patient followed directions as regards not eating the day before, the use of free purgation and the taking of 60 gr. of finely powdered thymol. Alcohol should be avoided. Beyond this it is hardly necessary to do anything further, though there is no harm in giving tonics.

Therapeutic Gazette, Detroit.

June 15.

73 Sedatives, with Special Reference to the Bromides. John B. Chapin, Robert H. Chase and William P. Spratling.
74 An Ophthalmic Clinic in the Hospital for the University of Pennsylvania. G. E. de Schweinitz.
75 *Hyoscin in the Treatment of Morphinism. T. D. Crothers.
76 *Report of 53 Cases of Typhoid Fever, Treated in the Medical Wards of the Presbyterian Hospital, in Which Acetozone Was Used During November and December, 1902, and January, 1903. D. Flavel Woods and M. C. Thrush.
77 Iodoform Substitutes and Adulteration. V. Coblentz.
78 The Physiologic Action of Adrenalin Chlorid. Isaac Ott and S. B. Harris.

75. Hyoscin in Morphinism.—Crothers condemns the use of hyoscin as an antidote for morphinism. He thinks the withdrawal of one narcotic and the substitution of another can never bring about a cure, and is a very doubtful measure, and that further experience will sustain this opinion.

76. Acetozone in Typhoid.—From the results of 53 cases here tabulated, Woods and Thrush conclude that acetozone is a valuable intestinal antiseptic, apparently lessening the tendency to tympanites and diarrhea, especially when given early and continued until convalescence is well established. The stools seem less offensive, and in most cases the color and consistency are not affected by its administration. The drug does not seem to act on the heart or respiratory organs or have any appreciable effect on the kidneys, and hyperpyrexia rarely appears when it is used. Relapses are also infrequent if it is properly employed until well into convalescence. All the cases here reported gave the positive Widal reaction and other clinical symptoms.

Annals of Surgery, Philadelphia.

June.

79 *Results of One Thousand Operations for the Radical Cure of Inguinal and Femoral Hernia Performed Between 1891 and 1902. William B. Coley.
80 *Myositis Ossificans. William J. Taylor.
81 *Pathology of the So-called Bone Aneurisms. Harvey B. Gaylord.
82 Gunshot Wound of the Longitudinal Sinus. B. Farquhar Curtis.
83 *The Orbital Route for the Removal of the Second Branch of the Fifth Nerve at the Foramen Rotundum. Ansel G. Cook.
84 Tubage of the Pharynx for Facilitating the Administration of Anesthetics and Preventing the Inhalation of Blood in Certain Operations on the Mouth and Face. A Hot-Water Bed for the Operating Table. George W. Crile.
85 *The Drowning of Patients in Fecal Vomit During Operations for Intestinal Obstruction and Septic Peritonitis. E. Wyllys Andrews.
86 *Splenic Infections. Albert L. Stavely.
87 *Primary Typhoidal Perforation of the Gall Bladder. John F. Erdmann.
88 Retroperitoneal Hernia. Alfred B. Atherton.
89 A Suction Apparatus for Continuous Drainage. Karl Connell.
90 *Primary Carcinoma of the Appendix. Alexis V. Moschcowitz.
91 Excision of the Scapula for Progressive Chronic Interstitial Myositis Associated with Obliterating Endarteritis. William B. Hopkins.
92 Instruments for Use Through Cylindrical Rectal Specula, with the Patient in the Knee-chest Posture. Howard A. Kelly.

79.—See abstract in THE JOURNAL, xl, p. 1669.

80. Myositis Ossificans.—There are two types of this condition, one where bone has formed in the softer tissues, with or without history of injury, and no apparent connection with the skeletal bones or their periosteum, or where osteophytes occur to which muscle tissue is attached and which has undergone osseous change. The second is where there is formation of new bone resulting directly from accident to the bone or its periosteum, and involving the muscles and fibrous structures. A number of cases have been reported like this where the muscles became quickly ossified after injury. Several of these are reviewed in brief. The author then reports his own case in which a man was kicked by a horse in the thigh, producing periosteitis and the muscles—especially the deeper fibers—contained small bony particles. The pieces of bone and muscle tissue that were here removed were directly in contact with the periosteum. The patient made an uneventful recovery. The second case was more on the first type, a gradually developing formation of irregular bone plates growing from the fibula.

81. Bone Aneurisms.—This term has been applied to certain obscure, pulsating hemorrhagic tumors of the bone which are considered a specific affection by Oehler. Gaylord reviews the five classical cases noticed by Richet and Volkmann, and some more recently reported ones by Anger, Wythe and Oehler. He follows these with a report of his own case, with microscopic findings. He concludes that the affection can hardly be considered a specific one and that in all probably the greater portion, if not all, of the cases of bone aneurism were originally medullary sarcomata. He agrees with Gentilhomme that while these tumors may have the characteristics of aneurisms, their etiology and the mechanism of their development are quite different. The question, therefore, to be decided is whether the term "bone aneurism" should be continued in the literature or whether we should refer to these cases as pulsating sarcomatous hematoma of bone.

83. Resection of the Fifth Nerve by the Orbital Route.—Cook gives in detail the method used for resecting the second branch of the fifth nerve at the foramen rotundum, bringing the distal end to between the alveolus and the upper lip, thus three inches away from the proximal end and turned in another direction, devised by Dr. Melancthon Storrs. The description of the operation is given as follows: The patient is put half reclining in a rocking chair, wedged with sand bags. One assistant is necessary to give the anesthetic and a second to hold the retractor.

> The lower edge of the orbit can easily be felt through the skin. Make a clean incision along this edge, from the inner to the outer angle of the orbit, through the tissues, including the periosteum, down to the bone. Then, with a blunt instrument, carefully elevate the periosteum from the floor of the orbit, going well back and exposing the sphenomaxillary fissure. Lift the eyeball out of the way with a spoon-shaped retractor inserted under the periosteum. Usually a bluish spot will appear, showing the situation of the infra-orbital nerve, covered by a thin plate of bone, in its canal in the floor of the orbit. Should there be any difficulty in locating the nerve, it can easily be done by passing a probe into the infra-orbital foramen and up into the orbit. Having located the nerve, with a chisel or any suitable instrument, crush the thin plate of bone covering it. The nerve can then be easily hooked up and brought into view. The infra-orbital artery is usually torn at this time, and bleeds for a few moments; but it is of no importance and will soon take care of itself. Having hooked up the nerve, ligate it securely with a piece of silk passed around it with an aneurism needle. Then cut the nerve, leaving the ligature fastened to the proximal end of the cut nerve. We now have the nerve under perfect control. By making a slight traction on the ligature we can bring the nerve into view, and by following it on can readily crush down the thin wall of the canal, removing the bone fragments with suitable forceps. When the nerve enters the sphenomaxillary fissure, it passes out of the bony canal, and is only surrounded by soft structures, which can easily be hooked or wiped away. Should the sphenomaxillary fissure be narrow, and not readily admit the introduction of instruments, it can easily be widened by inserting a suitable blunt instrument and by wedging or widening the walls. It is remembered that the upper wall of this fissure is the strong wing of the sphenoid bone, and that the lower one is the thin wall of the antrum. If either bone should break in these manipulations, it would be the wall of the antrum which would be crushed down and out of the way, and would cause no trouble. Having the nerve thus free to the foramen rotundum, next slip the ends of the silk ligature through a loop of wire, held with a small snare (the Jarvis snare of the rhinologists). The loop of wire in the snare is passed down the nerve to the foramen rotundum, just as a tunnel sound is passed over a filiform bougie. When the loop of wire reaches the foramen rotundum it is closed, and the nerve is cut and removed. To return now to the distal end of the nerve. Separate the integument from the bone down to the infra-orbital foramen, gather up with a hook the mesh of nerves going to the cheek, and drag the divided nerve through the foramen. Storrs then puts the nerve into the loop of a threaded needle and carries it down into the mouth, leaving the end which has been in the infra-orbital canal suspended between the alveolus and the upper lip; this end he cuts off even with the mucous membrane. This was for the purpose of preventing any possible restoration of any communication between the peripheral branches of the nerve and the stump left at the foramen rotundum. To complete the operation, place a small gutta-percha tissue drain in the track of the nerve, extending from near the foramen rotundum to the surface. Suture the skin wound. The drain should be removed at the end of twenty-four hours.

He says the operation is very simple and can be performed on elderly and feeble people with but little shock. Relief is immediate in all cases and permanent cure is effected in many. Scarring is insignificant and the patient is not long confined.

85. **Drowning by Fecal Vomit.**—Andrews reports two cases in which he thinks this accident occurred. The conclusions are given as follows:

1. Flooding of the air passages by fecal vomit is a real danger, and probably has caused many unexplained deaths. 2. Resuscitation is impossible or very difficult. 3. The fluid may flow by gravity through the relaxed stomach sphincters directly out of the intestine where it has accumulated in enormous quantities. 4. The accident occurs with great suddenness and with a stomach supposedly empty. The suffocation may be so complete that no outcry is made and may not be noticed by the attendant. 5. It may occur as late as an hour after anesthesia, or at any time until consciousness is restored. 6. We have no evidence that it can occur during consciousness even in extremis. 7. After septic laparotomy, patients, when returned to bed, should be watched, without even momentary intervals, to full consciousness. 8. A suggestion made to me by Dr. McArthur that as many as possible of such cases be operated under cocain anesthesia, seems to me sound in the light of the above report.

86. **Splenic Infections.**—Stavely reports two cases; in one he considers the diagnosis of splenic abscess with perforation of the kidney and discharge of pus *per urethram*. The abscess was opened, but full exploration was not attempted. It was irrigated with salt solution and closed. The patient recovered with a small sinus. The second case was one where a diagnosis was made of displacement of the spleen, malarial hypertrophy, hemorrhage, suppurative perisplenitis, infective splenitis, thrombosis of the splenic vessels and infarction. The spleen was removed, and found greatly enlarged, soft and friable and densely engorged. The parenchyma and retiform spaces of the organs were infiltrated and greatly distended with blood extravasation and with some hypertrophy of the retiform framework. Cultures from the organ yielded growths of the *Staphylococcus pyogenes albus* and *Bacillus coli communis*.

87. **Typhoidal Gall-Bladder Perforation.**—Erdmann reports the case of a woman, 46 years of age, on whom cholecystectomy was performed, and adds 3 more to those already collected by Keen and analyzes them. All the cases that recovered were operated ones; 4 out of 7. The diagnosis depends on a careful and thorough study of the cases, stress being placed on the original site of pain, and bearing in mind that pain in this region may come from perforating ulcer of the stomach at its duodenal end, or from the duodenum itself or the gall-bladder, and it may be also the pain of acute pancreatitis. The only treatment is operative. He prefers incision through the rectus muscle rather than at its outer border, or in the median line, as this gives the best exposure and the least possibility of hernia. Cholecystectomy is the only thing to do; the friability of the tissues is against the repair of the perforation. In the 2 fatal cases, the operations were incomplete, leaving only one in the 5 fatal cases where complete operation was done.

90. **Primary Carcinoma of the Appendix.**—From his study of the signs, symptoms and anamnestic data, Moschcowitz concludes that we can not give an exact estimate of the frequency of the condition. It is rare as compared with inflammatory disorders of the appendix, but so many new cases have been reported during the last few years that we may have to modify our opinion as to its extreme rarity. Apparently all primary carcinomata begin in the mucosa and it is probable that they take their origin in some preceding inflammatory process. The disease is most frequent at the time of life in which inflammatory diseases of the appendix are most common. This accounts for the early age of the cases reported. It is more frequent in the female than in the male sex, the statistics being about three to one. If it is proved true that primary carcinoma of the appendix originates in prior inflammatory processes, it will be an additional argument in favor of the removal of the appendix when once diseased.

Medical Fortnightly, St. Louis.

June 25.

93 Factors Affecting the Condition of the Kidney. Byron Robinson.
94 Briefs on Mental Diseases. F. Savary Pearce.
95 An Incubator for Delicate or Premature Infants. Vitray P. Blair.
96 Atresia of the Uterus. Report of a Case. J. A. Young.

Northwestern Lancet, Minneapolis.

July 1.

97 Some Therapeutic Uses of the X-Ray. W. P. Spring.
98 A Dispensary for Tuberculosis in Minneapolis. Henry L. Ulrich.
99 The Organized Medical Profession. J. W. Andrews.

Bulletin of the American Academy of Medicine, Easton, Pa.

June.

100 "Muck-rake" Methods in Medical Practice. Charles McIntire.
101 *Time Allowance in the Combined Collegiate and Medical Course. (Second report.) A. L. Benedict.

101.—See abstract in THE JOURNAL, xl, p. 1527.

Southern Practitioner, Nashville, Tenn.

July.

102 Address of Welcome, Association of Medical Officers of the Army and Navy of the Confederacy at New Orleans. Stanford E. Chaille.

Kansas City Medical Record.

June.

103 Hysteria. I. A. Johnson.
104 Alcohol (C_2H_6O). E. E. Gilmore.

St. Paul Medical Journal.

July.

105 The Organized Medical Profession. J. W. Andrews.
106 Biographical and Literary Notes on Paracelsus. Charles Greene Cumston.
107 Urethral Stricture. F. D. Patterson.
108 Tuberculosis of the Peritoneum. John Lyng.
109 Ureteral Dilatations, Constrictions and Spirality. Byron Robinson.
110 Subcutaneous Paraffin Injection. A Case of Eighteen Months' Standing. Two Mishaps and a New Syringe. Albert C. Heath.

Northwest Medicine, Seattle, Wash.

June.

111 Progressive Pernicious Anemia. S. J. Holmes.
112 Methodical Training in Surgical Technic. R. C. Coffey.
113 Lessons from the Life of Pasteur. (Concluded.) John G. Clark.
114 Rational Therapeutics. Wilbur N. Hunt.
115 Purpura Hemorrhagica Due to Ptomain Poisoning. George A. Tripp.

Richmond Journal of Practice.

June.

116 The Use and Abuse of Nitrites. A. B. Greiner.

Fort Wayne Medical Journal-Magazine.

June.

117 The Vaginal Segment of the Ureter. Byron Robinson.
118 The Modern Treatment of Entropion. Albert E. Bulson.

Hot Springs Medical Journal.

May.

119 Spring Medicine. A. H. Ohmann-Dumesnil.

Pacific Medical Journal, San Francisco.

June.

120 The Collection of Medical Journal Subscriptions. C. F. Taylor.
121 Some Random Comments on the American Medical Association. Ethan H. Smith.

Journal of the Eye, Ear and Throat Diseases, Baltimore.

May-June.

122 Dermoid Cyst of the Conjunctiva. Francis M. Chisholm.
123 Operation for Extensive Maxillary Necrosis from Antral Empyema. L. R. Culbertson.

Columbus Medical Journal.

June.

124 Scarlet Fever. George M. Waters.
125 Pleurisy: Causes and Symptomatology. R. A. Kidd.
126 Frambesia, Morula Smallpox, Cuban Itch. George W. Mangus.
127 The Inadequate Teaching of Hygiene in the Public Schools. Frank Warner.
128 Case 1: Mercurial Poisoning. Case 2: Femoral Aneurism. W. J. Means.

New Orleans Medical and Surgical Journal.

July.

129 Appendicitis, and the Attitude of the General Practitioner as Well as the Surgeon Towards It. F. W. Parham.
130 Internal Antiseptic Therapy in the Treatment of Acute and Chronic Pathologic Processes. H. L. Ducrocq.
131 Some Notes on the Treatment of Phthisis Pulmonalis. E. M. Dupaquier.
132 Recent Advances in the Treatment of Diarrhea. R. B. Paine.
133 Ligation of Canaliculi for Extraction of Cataract Complicated with Dacryocystitis. Drs. Bruns and Robin.

Toledo Medical and Surgical Reporter.

July.

134 The Milk Supply of Toledo, with Demonstrations of Simple Forms of Milk Analysis. L. Marsh Dolloway and Albert Steinfeld.
135 Eczema. Edwin D. Tucker.

Western Medical Review, Lincoln.

June 15.

136 President's Address, Nebraska State Medical Association. A. B. Anderson.
137 Acne Vulgaris. E. E. Womersley.
138 Practical Skiagraphy. A. V. Robinson.
139 The Social Side of Pediatrics. I. C. Philbrick.

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Woman's Medical Journal, Toledo.

May.

140 Asthenopia. M. Jean Gale.
141 The Diagnosis of Pregnancy. Anna E. Blount.

Texas Medical Journal, Austin.

June.

142 Eclampsia. W. H. Allen.
143 Alcohol. E. E. Guinn.
144 Treatment of Fractures in a Country Practice. W. B. Collins.
145 Diluting and Washing the Blood in Certain Forms of Poisoning. W. W. Greer.

Canadian Journal of Medicine and Surgery, Toronto.

July.

146 President's Address, Ontario Medical Association. J. C. Mitchell.
147 Uterine Myomata and Their Treatment. Thomas S. Cullen.
148 Diphtheria. J. J. MacKenzie.
149 Waistbands and Corsets in the Genesis and Treatment of Movable Kidney and Associated Ptoses. A. Ernest Gallant.
150 Cutaneous Anthrax. Wilson Y. Young.

Carolina Medical Journal, Charlotte, N. C.

June.

151 President's Address, Medical Society of the State of North Carolina. A. W. Knox.
152 Benefits Derived from a County Medical Society. Albert Anderson.
153 A Consideration of Injuries as Seen in Wood-Working Factories. C. A. Julian.
154 The Normal Saline Solution; Its Physiologic Action and Uses. George P. Edwards.
155 Some Experiences in Obstetrics. Twenty Cases of Puerperal Eclampsia. The Induction of Premature Labor; Retained Placenta. L. B. McBrayer.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

June 27.

1 History of Medicine. Joseph Frank Payne.
2 Muscular Movements and Their Representation in the Central Nervous System. Charles E. Beevor.
3 *The Etiology of New Growths. Keith W. Monsarrat.
4 *A Criticism of Current Doctrines Concerning Hernia. Edward Deanesly.
5 Etiology and Treatment of Mucomembranous Colitis. Dr. Bottentuit.
6 Case of Perforation of the Aorta by a Pin Accidentally Swallowed. Isambard Owen.
7 The Epidemiology of Plague: Note on the Fleas of Rats. Frank Fidwell.
8 Potassium Permanganate in the Treatment of Lupus. J. Hall-Edwards.

3. New Growths.—The points of Monsarrat's article are summarized by him as follows:

1. Cell activity and cell type must always be the resultant of bio-chemical reaction of the principles of which the researches of Ehrlich and others have enabled us to obtain some information. 2. Cell proliferation as a form of cellular activity is always the resultant of such reaction. When it takes place as the result of increased availability of normal food material, the new cells produced conform to the type of the parent cells. When it follows the action of assimilable materials of abnormal constitution new cell types are evoked, variants on the type of the parent cells. 3. Cell proliferation of the latter type takes place in certain microparasitic infections. 4. The new cell types thus evoked exhibit various degrees of instability. 5. In the granulomata (infectionsgeschwülste) their stability is considerable; in certain growths which result from infective agents ((for example, condyloma) the equilibrium of the new type appears to be stable. 6. In the so-called true tumors, cell types arise as variants on the normal cells of the organ or tissue of origin. The ways in which such cell variants may be evoked is not discussed, but that they may result in some cases from the action of micro-parasites is a reasonable view. 7. These cell types are stable; their stability is due to the capacity of the particular variant to attach to itself and assimilate material in conformity with its type. 8. In the simple tumors they are only locally stable, and are not immune to reactionary influences outside the tissue of origin and the normal relationships of parenchyma and connective tissue. 9. In the malignant growths they possess a wide range of stability and immunity, and the degree of this is the measure of their capacity to form metastases, while local infiltration, the other histologic characteristic, is dependent on the principle of chemotaxis, the cells extending in those directions in which their variant and aberrant bio-chemical affinities enable them to annex material conformable to the building up of their characteristic type.

4. Hernia.—Deanesly holds that oblique inguinal hernia is always in a measure congenital, due to a pre-existent patent funicular process. To prove that the sac of any oblique hernia is ever formed by an independent protrusion of the peritoneum unconnected with the processus vaginalis, is absolutely unsupported by any evidence and the only possible proof of it would be the demonstration of the co-existence of an unclosed processus vaginalis with a separate hernial sac alongside of it. This, so far as he knows, has never been demonstrated. The question of congenital or non-congenital origin of ordinary inguinal hernia has, he says, some practical importance. The first deduction is that every case could be certainly cured by the efficient removal of the congenital malformation, that is, the sac—provided the operation is done soon after the first appearance of the hernia or, at any rate, before the presence of the hernia or the pressure of the truss have produced secondary distension or atrophy of the inguinal canal muscles. Delay, therefore, whether the truss is worn or not, increases the difficulty of radical cure. In infants the truss is sometimes an efficient method of treatment, as it enables the patent funicular process to undergo its natural obliteration.

The Lancet, London.

June 27.

9 *Muscular Movements and Their Representation in the Central Nervous System. Charles E. Beevor.
10 The History of Medicine. Joseph Frank Payne.
11 On the Diagnosis of the Cause of Jaundice. Sidney Phillips.
12 *Note on the Persistence of the Gruber-Widal Reaction in Convalescence from Typhoid Fever. H. S. D. Browne and K. E. Crompton.
13 *On the Use of the Roentgen Rays in the Diagnosis of Pulmonary Disease. J. F. Halls Dally.
14 A Brief Note on a Bacillus in a Case of Ulcerative Colitis. Theodore Fisher.
15 Three Cases of Cholecystectomy. Frederic S. Eve.
16 The Prevalence of Pneumonias in Infancy. S. Vere Pearson.
17 Respiratory Crises in Grave's Disease. J. Gordon Sharp.

9. Muscular Movements.—The third and fourth lectures of Beevor appear in this issue. The last one discusses the cerebral localization of the various movements, reviewing what has been published from time to time by various authorities, and giving the results of experiments of the author in connection with Sir Victor Horsley in regard to the movements occurring on the same side of the cortex with irritation.

12. The Gruber-Widal Reaction.—From a study of 68 cases of the convalescent type where the Gruber-Widal reaction was tested at various periods after recovery from typhoid, Browne and Crompton find merely 3 cases giving a positive reaction, and one of these only two months after the attack. This is a much smaller proportion of positive reactions than that given by some other authorities, the difference being partly due to the inclusion by authors of cases in which only a few weeks had elapsed from the original attack, and partly to the low dilutions used by them. A dilution of 1 to 10 was first used in all of the authors' cases. When any indication of reaction occurred weaker dilutions were employed. Other observers have used dilutions down to as low as 1 in 2 and 1 in 9. If they themselves had considered, the authors say, a positive reaction of 1 in 10 as sufficient, their list would have shown 8 more positive reactions, bringing their proportion up to 11 out of 68. While they do not doubt that the reaction of low dilution shows that the blood in some cases retains for a long time the specific agglutinative action of the *Bacillus typhosus*, yet they wish to insist that this need lead to no error of diagnosis, provided that sufficiently high dilutions, that is, 1 in 20 or 1 in 50, are proceeded with in cases in which there is any doubt. Their findings agree with those of Elsberg, who sees no relation between the severity of the attack and the duration of the reaction.

13. Pulmonary Tuberculosis.—Dally finds from his studies that the Roentgen rays are an important adjunct to the methods of physical investigation heretofore in use in testing for tuberculosis, and that unilateral limitation of diaphragmatic movement as seen by the fluoroscope is often the earliest indication of incipient disease. He holds that by the aid of the Roentgen rays pulmonary tuberculosis can be diagnosed at an earlier stage than by any other means at our disposal.

Archives Gen. de Medecine, Paris.

Last indexed XL, Page 877.

18 (LXXX, 8.) *Rachitisme tardif et chondromes multiples. Boinet and Stephan.
19 (No. 9.) Le souffle d'asthénie cardiaque. Lamacq.
20 (No. 10.) Hemiplégie à répétition d'origine urémique. J. Le Calve.
21 (No. 11.) Sur 2 cas de meningisme uricémique. G. Carrière.
22 (No. 12.) Pathogénie générale des affections buccales. J. Chompret.
23 (No. 13.) *Study of Syphilis in the Country in Russia. Marcon.—La syphilis du paysan en Russie.
24 Hemorragie dans le tubercule quadrijumeau antérieur droit. Bouchaud. One case.

25 *Hepatic Syphilis from a Surgical Standpoint. C. G. Cumston (Boston, Mass.).—La syphilis hépatique au point de vue chirurgical.
26 Des modifications respiratoires produites dans la tuberculose pulmonaire par le traitement trachéal. Mendel.
27 (No. 16.) Two Distinct Cancers on Same Breast. H. Morestin.—Epithélioma du mamelon et epithélioma glandulaire de la mamelle. Névralgie intercostale.
28 Les syndromes fonctionnels de la pathologie rénale et l'insuffisance rénale. L. Bernard.
29 *Du tremblement provoqué ou exagéré par l'opothérapie surrénale ou thyroïdienne. Boinet (Marseilles).
30 (No. 17.) *The Blood in General Paralysis and Tabes. M. Klippel and E. Lefas.—Le sang dans la paralysie générale et le tabes.
31 Traitement de la stérilité pas les eaux sulfureuses de Luchon. J. de Segrais.
32 De l'intervention chirurgicale dans les inflammations chroniques du gros intestin (rectum excepté). P. Launay.
33 (No. 18.) Des lesions de la couche musculeuse de l'estomac dans les gastrites non compliquées d'obstacle mécanique. G. Hayem and G. Lion.
34 Glycosurie et hypophyse. P. E. Launois and P. Roy.
35 (Nos. 19-21.) Dietary in Temperate Climates. E. Maurel.—Aperçu général sur la ration d'entretien pendant les saisons intermediaires dans les climats tempérés.
36 Treatment of Consequences of Phlebitis. H. Hannequin.—Les suites de phlébites.
37 Syndrome surrenal chronique experimental. R. Oppenheim and M. Loeper.
38 Etude du polyadénome polypeux et de l'adéno-papillome de l'estomac. J. Bret (Lyons).
39 Syphilis of Liver in Adult. E. Bolx.—La syphilis du foie chez l'adulte.
40 (No. 23.) More than the Physician, the Surgeon Should Make Blood Examinations. J. Silhol.—Plus encore que le médecin, le chirurgien doit examiner le sang des malades.
41 Varicocele tubo-ovarien. G. Michel. One Case.
42 (No. 24.) Action de la sécrétine et action de l'acide dans la sécrétion pancréatique. M. C. Fleig (Montpellier).
43 De l'insuffisance respiratoire dans la tuberculose pulmonaire. Mendel.
44 The Americans and Yellow Fever. M. Boigey.—Les Americains et la fièvre jaune.

18. **Tardy Rachitis and Multiple Chondromata.**—Boinet shows that during the entire course of the growth of the skeleton there are liable to be disturbances in its normal development, involving its various tissues. The changes in the bones regarded as tardy rachitis, whether or not they belong in the category of true rickets of early childhood, should be included in these deviations in development. With them belong also the chondromata that develop in association with these tardy bone lesions. He illustrates a typical, very pronounced case. The incidental cause of the formation of the cartilaginous tumors seemed to have been a traumatism. He also notes that an eruptive fever preceded the appearance of the bone malformations and the swelling of the epiphyses in both this and another case. Consecutive to a fracture of the ankle the right calcaneum in his case became infiltrated with a cartilaginous product and histogenetic troubles rapidly developed, leading to benign gelatinous degeneration.

23. **Syphilis in the Country in Russia.**—Marcou was sent by the French government to study medical conditions in Russia, and expatiates on the differences between syphilis there and in other countries. Outside of the large towns, in which the conditions approximate those in western Europe, throughout the country districts, entire villages and scattered communities are decimated by syphilis, which the habits of the Russian peasants allow to spread rapidly by extra-genital infection. Women and children are peculiarly the victims owing to their promiscuous use of articles, clothing, etc., and their more confined life. The habit of kissing sacred images and acquaintances on certain feast days aids in the dissemination of the virus.

25. **Hepatic Syphilis from Surgical Standpoint.**—Cumston's report of 3 cases and review of the literature is similar to that published previously in this country and recently reviewed in these columns, page 1539.

29. **Tremor Induced by Opotherapy.**—Boinet has observed 10 cases in which tremor was induced by thyroid or suprarenal treatment. Analyzing them, he finds that the tremor is not a sign of intoxication, but merely that the limit dose has been reached. The cases of Addison's disease that exhibited it were the ones most benefited by the opotherapy. The tremor may serve to differentiate this disease and exophthalmic goiter after test of opotherapy.

30. **The Blood in General Paralysis and in Tabes.**—Klippel reports the result of examination of the blood in 31 cases of these affections. The blood count always showed a lack of normal cellular balance. The proportion of polynuclears was increased at first, and later of the lymphocytes, in general paralysis, and in tabes there was also a red anemia and reactional eosinophilia. These facts suggest infection, and are valuable for differentiating dubious cases as general paralysis and possibly tabes may be assumed to be of an infectious nature.

Archives de Neurologie, Paris.

Last indexed XL, page 1175.

45 (XXV, May.) Etude sur la manie. S. Soukhanoff and P. Gannouchkine.
46 Nouvelles observations de névrose d'angoisse. H. Hartenberg. Three cases.
47 Physio-psychologie des religieuses; les religieuses de Port-Royal. C. Binet-Sanglé. (Concluded. Fifth series of five observations.) Historical.
48 (June.) Note sur un cas de bestialité chez la femme. Ch. Féré.
49 La clinique psychiatrique de l'Université de Giessen (Hesse). P. Serieux.

Revue de Medecine, Paris.

Last indexed XL, page 1265.

50 (XXIII, 4.) *Manifestations cardio-vasculaires de l'hérédo-dystrophie para-tuberculeuse. E. Mosny.
51 *L'indicanurie dans les affections de l'estomac (of stomach). J. Carles (Bordeaux).
52 Deux cas de fièvre typhoïde à localisations anormales (colotyphus). V. Le Golc.
53 (No. 5.) *Trois cas de broncho-pneumonie continue, et remarques sur l'hospitalisation des pneumopathes. G. Rosenthal.
54 Painful Lassitude as Epileptic Equivalent. Ch. Féré.—Note sur la courbature comme equivalent épileptique.
55 Syndrome de Weber from injury of Right Orbit in Fencing. Bichelonne.—Coup de fleuret dans l'orbite droit. Syndrome de Weber. Hystéro-traumatisme probable.

50. **Cardio-Vascular Lesions in Children of Tuberculous Parents.**—The taint in the progenitors, infectious or toxic, especially tuberculosis, entails on the children a liability to congenital hypoplasia of ovular or ontogenetic origin, affecting the tissues which have a common blastodermic origin. When the cardio-vascular apparatus is affected, the lesions are distinguished by the prolonged latency, the consequence of the extreme tolerance of the organism for the lesions to which it seems to have adapted itself before birth. The revelation of their presence comes late, usually on account of some stress which upsets the balance established between the organism and the system marked by hypoplasia, or under the influence of some intercurrent infection or intoxication which brings into evidence its primal insufficiency. This latency is particularly striking when compared with the symptoms from acquired lesions of the same localization which are so often the cause of grave functional disorders almost from the start. This fundamental difference indicates the prognosis and the therapeutics. The lesions are not tuberculous in nature. The subjects are frequently free from the slightest tuberculous lesion and do not seem predisposed to them nor rendered immune against them. Early or late, however, the manifestations of this "para-tuberculous heredo-dystrophy," as Mosny calls it, become apparent, but the chlorosis, pure mitral stenosis, stenosis of the pulmonary artery or aorta, and diffuse arterial aplasia, alone or combined, have each their special features which allow them to be differentiated from acquired lesions.

51. **Indicanuria in Stomach Affections.**—Carles concludes from study of 22 subjects that indicanuria is not observed in hyperchlorhydria, but is almost always constant in case of deficient secretion of the gastric juice or hydrochloric acid, and also in case of fermentations in the stomach. The liver functions do not seem to have much to do with indicanuria, but it appears to be intimately connected with the functioning of the gastric mucosa. Indicanuria indicates not only the measure of gastro-intestinal fermentations but is also an index of the gastric secretions.

53. **Continuous Bronchopneumonia.**—Rosenthal's 3 cases were all due to the enterococcus of Thiercelin, and commenced with ordinary bronchopneumonia. The long duration, predominance of general phenomena, attenuation of the functional signs, slight hyperthermia, sometimes polycyclic, and the cachexia, simulating that of tuberculosis, are all included in the syndrome. No Koch bacilli could be discovered. The patients were pining in the hospitals when the fresh-air cure was instituted with prompt and rapid recovery in each case.

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Semaine Medicale, Paris.

56 (XXIII, 22.) Hazardous Risks and Life Insurance According to the Transactions of the Examiners' Congress. F. Farnarier.—Risques tarés et assurance sur la vie d'après les travaux du congrès de Paris. See report on page 1785 of last volume of THE JOURNAL.

57 Letter from America. F. Munch.—Traitement du shock chirurgical aux Etats-Unis.

58 (Nos. 23-24.) Detailed Report of German Congress of Surgery.

59 Letter from America. F. Munch.—Sur le parasite de la variole.

60 Ibid. Traitement opératoire des rétrodeviations utérines.

61 *Influence du paludisme dans l'apparition du béribéri. C. L. Urriola (Panama, Colombia).

62 *Le traitement des tuberculeux dans les colonies familiales. H. Erni (Gersau, Switzerland).

61. Influence of Malaria on Beri-Beri.—In Urriola's experience at Panama he has examined the blood of 22 patients with beri-beri, and invariably found the malaria parasite. The beri-beric symptoms, he mentions, always followed the onset of malarial symptoms. He thinks that there is more than a mere coincidence in this fact. Almost all the beri-beri deaths were due to heart complications, and loss of memory was frequent and so complete in one instance that the subject was unable to follow any occupation. The heart symptoms of the beri-beri were dyspnea at the slightest effort, embryocardia and increasing asphyxia to fatal suffocation, but no true cardiac souffles were noticed. Manson's "pendulum" sign has only relative value, as the memory suffers in beri-beri and the malaria induces a characteristic endocarditis and probably also a myocarditis with granulo-fatty degeneration. In most cases, therefore, it is impossible to establish a difference between beri-beri and malarial neuritis, and in fact, Urriola thinks there is no difference, and that the two are identical. Before incriminating the humidity or the food in the etiology of beri-beri we must first exclude or cure the malaria. He has been very successful in curing beri-beri by applying suspension, quinin, iron, and cold hydrotherapy. His patients were completely cured by 15 to 30 applications of suspension supplementing the other measures.

62. Treatment of Consumptives in Family Colonies.—Erni describes the homes offered to tuberculous subjects on the slope of the Righi. There are several villages at different altitudes where the families make a practice of taking tuberculous subjects into their homes. The fare is simple; little meat, but eggs and milk in abundance, five or six meals a day, and the host watches over his guests to see that no undue exercise is taken. In fact, long walks are impossible as the ascents are so steep. The price of these accommodations is not more than $4.20 a week, and the inmates thrive under the enforced repose and patriarchal conditions, as well as in pretentious sanatoria. Some families take only 2 or 3, others as many as 8, and during the last ten years nearly 2,000 tuberculous guests have been thus received in the canton of Schwyz. The village physicians have looked after them at reduced rates. Erni recommends this plan of mountain family colonies as having proved its usefulness at the minimum of expense. Nothing has been observed during the ten years that suggests that any of the hosts have become infected from their guests. The plan offers a means of gain to these mountain villages, which they are glad to exploit under the supervision of the local physician. The lack of comfort is no detriment.

Beitraege z. Klin. Chirurgie (v. Bruns'), Tuebingen.

Last indexed XL, page 342.

63 (XXXV, 1.) *Ueber die Tuberkulose der männlichen Geschlechts-Organe. von Büngner (Hanau).

64 Study of Chemical Composition of Aseptic Wound Secretions. V. Liebiein (Prague).—Zur Kenntnis der chem. Zusammensetzung des asept. Wundsekretes.

65 Luxations of Pelvis. P. Linser.—Ueber Beckenluxationen. One case.

66 *Zur Ligatur-Behandlung der Hemorrhoiden. E. Ehrich (Rostock).

67 Hernias of Bladder. Lossen (Carlsruhe).—Ueber Harnblasenbrüche.

68 *Zur Statistik und Kasuistik des primären Extremitäten Krebs (cancer). K. Franse (Innsbruck).

69 *Die Nephrotomie und ihre Folgen (consequences). O. Langemak (Rostock).

70 Tavel's Salt-Soda Solution. H. Küttner (Tübingen).—Ist die physiol. Kochsalzlösung durch die Tavel'sche Salzsodalösung zu ersetzen?

71 (No. 2.) Carbon Dioxid Narcosis. O. Rothschild (Breslau).—Ueber Kohlensäurenarkose.

72 Experiences with Spinal Cocainization at Breslau. G. E. Stumme.—Unsere Erfahrungen über die Cocainisirung des Rückenmarks nach Bier.

73 Remote Results of Operative Treatment of Cleft Palate. W. Kassel (Breslau).—Zur op. Behandlung der angeborenen Gaumenspalte mit bes. Berücksichtigung der funct. Erfolge.

74 *Splenektomie bei dem primären Sarkom der Milz (spleen). W. Simon (Königsberg).

75 *Rectum-Tumor und Corpus liberum der Bauchhöhle. J. Elter (Rostock).

76 *Zur Anatomie und Klinik der Struma maligna. O. Ehrhardt (Königsberg).

77 Zur Operation der Scrotalhernien bei Kindern (in children). W. Anschütz (Breslau).

78 *Considerate After-Treatment of Septic Operations. H. Küttner (Tübingen).—Schonende Nachbehandlung septischer Op.

79 (No. 3.) *Ueber die Schneiderlin'sche Skopolamin-Morphium-Narkose. E. Blos (Carlsruhe).

80 Zur Kasuistik der Schadel- und Gehirnverletzungen (skull and brain injuries). Amberger (Frankfurt a. M.).

81 Kosmetische Behandlung von Sattelnasen mit Vaselin-Injektionen. M. Wassermann (Munich).

82 *Ueber Spontan-Gangrän der Extremitäten. O. v. Wartburg (Zurich).

83 *Foreign Bodies in Air Passages. E. Monnier (Zurich).—Ueber Fremdkörper in den Luftwegen und die Bedeutung der Bronchoskopie bei solchen.

84 *Ueber Hydronephrosis intermittens. J. Michalski (Zurich). (Commenced in No. 1.)

85 Operating During First Whiffs of Ether. H. Küttner (Tübingen).—Das Operiren im Etherrausch.

86 *Application of Electro-magnet for Removal of Foreign Iron Bodies in Bladder. F. Hofmeister (Tübingen).—Anwendung des Elektromagneten zur Entfernung eiserne Fremdkörper aus der Harnblase.

63. Treatment of Tuberculosis of the Male Sexual Organs.—Büngner reports continued success with his method of treating tuberculosis of the male genitalia. It includes what he calls "high castration," that is, castration with evulsion of the vas deferens. Instead of dividing the vas at the ordinarily accessible point, he mobilizes and pulls steadily on it until it breaks high up. About four-fifths of the vas can usually be removed in this way, and his experience during nine years has demonstrated that the remaining portion soon heals. His method also includes direct injection into the vas deferens of a 10 per cent. glycerin solution of iodoform. He injects 3 or 4 gm. upward and 1 or 2 downward. Experiments on the cadaver show that the solution permeates the entire generative tract on this side, even distending the seminal vesicles. His experience also confirms von Bruns' that tuberculosis of the generative tract is almost invariably ascending, so that by this method of high castration all or nearly all the morbid parts are removed and the rest soon heals when freed from irritation from below. He has treated 18 patients by this high castration, which he recommends for tuberculosis restricted to the testicles and vas alone. He supplements it with the intracanalicular iodoform injections when there is reason to think the entire tract is invaded, including the seminal vesicles and prostate, or applies these injections alone. As a last resort, he ablates the tract the entire length of its course. The latter is very seldom necessary. All of his last series of 10 were cured, and all but 2 of the remainder. This is a total of 86.6 per cent. cured in contrast with Bruns' percentage of 46 per cent. cured by unilateral castration and 56 per cent. by bilateral, in 111 cases followed for three to thirty-four years. Simon has reported from Heidelberg 66.3 per cent. cured in 92 cases, and Kocher 26.3 per cent. in 45. Injurious after-effects that might be attributed to the castration were not found by Bruns in any of the 33 examined and by Simon only once in 34. Büngner details the particulars of his last series of 11 cases, and in the colored reproduction of the testicles, etc., and vas from a cured case he shows how the vas was diseased far above the point where it is usually severed. He has found that the epididymis is generally first involved and the vas next, the testicles being affected much less frequently than the latter. Only in the rarest cases were the prostate and vesicles also diseased. In 2 of his cases, high castration plus a single intracanalicular injection resulted in the complete healing of the lesions above, which were to have been removed later in a second intervention. One was a man of 39 and one a boy 4 or 5 years of age.

66. Ligature Treatment of Hemorrhoids.—Ehrich thinks that ligature is far superior to excision or cauterization in treatment of hemorrhoids, as far as the simplicity of the technic and of the after-treatment is concerned. At the same time it guarantees better against complications of various kinds, and is fully the equal of cauterization in respect to the ultimate outcome. He has thus treated 58 patients and 14 others plus excision of some of the nodules. In 16 cases he supplemented

the ligature by injection of one or two drops of a 90 per cent. solution of carbolic acid, protecting the sound parts with alcohol. Three cases were treated by these injections alone. All of his total of 98 patients were cured in ten to fourteen days; a few required a single injection of morphin on account of pain in the region. Catheterization was necessary in 11 cases. The nodules drop off in dry necrosis. Recurrence after ligature treatment occurred in only 4, and in 4 the benefit was merely partial, but 68 have been permanently cured. The only mishap in his experience was the death of one patient the seventh day with symptoms of embolism of the lungs, who had been treated by ligatures alone.

68. **Primary Cancer of the Extremities.**—Franze has had occasion to observe 21 cases of a malignant growth on an extremity. In 11 it developed at the site of some old injury, mechanical, thermic or chemical. In this group the glands are involved very late and the possibility of early removal of the neoplasm renders the prognosis good; 69.7 per cent. were cured and 30.29 per cent. succumbed. In another group were 5 cases of primary cancer on sound skin, the back of the hand in 3 and the thigh and heel in 1 each. None of these patients died. His third group includes those in whom the cancer developed from a congenital wart or maternal mole, 5 in all, and all fatal. The back of the hand was involved in 2, the sole in 1, the forearm in 1, and the left calf in the fifth. He has found 8 similar cases on record, all likewise fatal, and only 1 has been published in which there has been no recurrence since ablation. They usually occur in elderly persons and run their course in a year and a half. He thinks that the physician ought to impress on his patients the necessity of prophylactic removal of these congenital warts and moles, including the pigmented nevi, the latter on account of the liability of melanosarcoma. The mortality of the combined statistics shows 65.2 per cent. cured and 34.8 per cent. mortality or omitting the malignant third group, the mortality has been 30.3 per cent., with nearly 70 per cent. cured.

69. **Consequences of Nephrotomy.**—Langemak warns that his experience with rabbits indicates that any deep incision into the kidney induces an infarct, corresponding in size to the artery that is severed. Also that coagula may plug the entrance into the ureter, causing temporary insufficiency of the kidney. This latter danger should never be forgotten in operating on the kidney, and hemorrhage into the organ should be avoided and all blood in it should be carefully removed.

74. **Sarcoma of Spleen.**—The experience at Königsberg demonstrates that the spleen should be removed on suspicion of sarcoma, without waiting for definite and serious symptoms. In 7 cases operated on and published in the literature the results were favorable in 6, as also in a case personally observed. The latter patient was a woman of 38 from a malarial region, a multipara, who had noted at long intervals pains in the left half of the abdomen. The blood was apparently normal.

75. **Free Body in Abdomen.**—A supposed tumor on the rectum, protruding into the Douglas cul-de-sac, was extirpated and found to be a necrotic and calcified fibrolipoma that had been cast off from the omentum. It had lodged on and grown to the rectum. Similar lipomata were found scattered over the omentum at the autopsy, and evidences of carcinomatous degeneration were also discovered which explained the symptoms observed and credited to the bunch palpated in the Douglas sac.

76. **Malignant Struma.**—Ehrhardt remarks that malignant struma usually develops in a goiter, but not always. Ordinary goiter is movable as a rule, but the malignant struma does not move during the act of swallowing. This absence of movement was noted in 40 per cent. of the cases of malignant struma on record. He has collected 131 cases of carcinoma with glandular metastases in 49, and 107 cases of sarcoma with glandular involvement in 18. In operating general anesthesia should be avoided.

78. **Considerate After-Treatment of Septic Operations.**—Küttner hints that when a surgeon has been himself the subject of a septic operation he is better able to appreciate some of the details that add to the comfort of the patient. Among these is the use of drain tubes instead of gauze, as easier to change. If the temperature and pain do not increase, why not leave the dressings untouched for days? And if moist dressings are applied why not apply fresh ones outside and leave the one in contact with the wound undisturbed? The practice of cauterizing wounds with pure carbolic acid is particularly useful, as it reduces the secretions in the wound for days. A wet dressing soothes pain far better than a dry one. In replacing tampons in a crevice or narrow cavity, much pain is avoided by having the lips of the wound gently pulled apart by retractors. The wound surface should be touched as little as possible, and as soon as the acute inflammation is past, apply the salve dressings. If new incisions become necessary do not attempt local anesthesia, as it is liable to fail in the debility of extensive septic processes. Operate during the "ether drunk," that is during the first few whiffs of ether.

79. **Scopolamin-Morphin Anesthesia.**—This method of anesthesia was used in 105 cases at the Carlsruhe clinic. In the majority, Blos states, it proved "ideal." It failed in 29 cases, and in two-thirds of these ether had to be given to complete the operation. Hysteric and neurasthenic patients are liable to react with restlessness, palpitations and vomiting, even to small doses. The danger in this method of narcosis is from arrest of the circulation. There were respiratory disturbances in 9 of the 70 cases in which it was administered unmodified. In 4 of the 9 the disturbances were slight and spontaneously righted themselves at once; in 2 after massage had been applied to the heart and in one each after artificial respiration or wiping out the throat. A few vigorous pulsations of the heart—induced by the massage—had a particularly favorable action on the respiration. One patient died, the death explainable by advanced pulmonary lesions, nephritis and heart weakness. The narcosis is rarely so deep but what the subject can be roused by shaking and calling to him—a great point in its favor. He thinks that inhalation of oxygen might be useful in case of trouble. The mucous glands are paralyzed by this narcosis and consequently ether given afterward has none of the dangers as under other circumstances. His experience indicates that 10 dmg. scopolamin and 6 cg. morphin is the best dose to start with. After waiting an hour or an hour and a half, a second smaller dose may be given but can usually be dispensed with. Vomiting was noted once or twice in 12 of 99 cases. It was not accompanied by nausea. [The latest communication on the subject by Schneiderlin, the inventor of this method of narcosis, was reviewed very fully in THE JOURNAL of April 11, 1903, p. 1036.]

82. **Spontaneous Gangrene of the Extremities.**—Wartburg describes 3 cases of gangrene from embolism of the iliac or femoral artery, traceable to a valvular affection, and 1 due to an aneurism in the popliteal. He has also observed 5 cases in which the gangrene was due to thrombosis, evidently the result of a circumscribed endarteritis subsequent to some infectious disease. Pains in the limb had been noted as the first symptom. Amputation may cure in these cases as the prognosis is better than in the first group. The mortality in 32 cases of senile gangrene was 63.75 per cent. The gangrene is probably due to arteriosclerosis in senile as also in diabetic gangrene, of which he has observed 8 cases. The prognosis after amputation is more favorable in diabetic than in senile cases. All were cured in 6 treated by exarticulation of the knee, and 4 were cured in 7 after amputation of the thigh.

83. **Foreign Bodies in Air Passages.**—Monnier expatiates on the value of direct bronchoscopy and urges that we must not be deceived by the mildness of the symptoms noted after a foreign body has been drawn into the air passages.

84. **Intermittent Hydronephrosis.**—The details of 133 cases collected are tabulated, plus 8 unpublished ones.

86. **Extraction of Foreign Body from Bladder with a Magnet.**—An iron peg, 5 cm. long by 6 mm. wide, was inserted in the urethra by a young man and slipped into his bladder, where it could be seen by radioscopy. It was extracted by means of a Hirschberg portable magnet, the short tip used in ophthalmology being replaced by a long one, shaped something like

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a catheter, considerably wider than the peg. A hair pin in a woman's bladder was also successfully removed with it.

Deutches Archiv f. Klin. Medicin, Leipsic.

Last indexed XL, page 836.

87 (LXXVI, 1-3. Pribram Festschrift.) Zur Kenntnis der Callus-Bildung bei osteomalacischer Fracturen. H. Beckmann.
88 Beziehungen der Tetanie zur Epilepsie und Hysterie, nebst Mitteilung eines Falles von Tetanie bei Osteomalacie. E. Freund.
89 *Prophylaktische Wirksamkeit des Urotropins bei Typhus-Bakteriurie. E. Fuchs.
90 Mode of Action of Cotoin and Fortoin on Intestinal Content. R. Karb.—Wirkungsweise des Cotoins und Fortoins auf den Darminhalt.
91 Hyper- und metaplastiche Hematopoiese bei universeller Carcinose. L. Kast.
92 Ueber Wachsthumsstörungen der Knochen bei multiplen cartilaginösen Exostosen. K. Lippert.
93 Ueber die baktericiden Wirkungen des menschlichen Blut-Serums bei Gesunden und Kranken. W. Löwenstein.
94 Heat Sense. F. Neumann.—Zur Klinik des Wärmesinnes.
95 Zum diagnostischen Werth der Lumbal-Punktion. G. Orgler-meister.
96 *Zur Aetiologie des akuten Gelenk Rheumatismus. C. Philipp.
97 Transcorticol Disturbances in the Motor Apparatus. F. Pick.—Ueber transcorticale Störungen des Bewegungsapparates.
98 *Klinische Beobachtungen bei 10 Fällen von Diabetes Insipidus. R. Pribram.
99 *Untersuchungen über Diabetes. L. Schwarz.
100 *Ueber die Tuberkulin-Reaktion. L. Zupnik.

89. **Urotropin in Prophylaxis of Typhoid Bacteriuria.**—The articles in this Festschrift in honor of Professor A. Pribram of Prague, all issue from his clinic. Fuchs states that urotropin administered in time to typhoid patients will effectually prevent bacteriuria later. He found bacilli in the urine in 26 out of 75 cases of typhoid fever, while in 40 treated with the urotropin, only one had bacteriuria, and in this latter case the drug had not been given as early as to the others. It must be commenced before the fever subsides, 2 gm. in an aqueous solution daily, and continued into convalescence to the latest date at which bacteriuria is liable to develop.

96. **Etiology of Acute Articular Rheumatism.**—Philipp believes that this disease is one apart from others, of entirely unknown etiology to date. No substance has yet been isolated from the blood or joint exudate which is pathogenic for any animal except the calf. Experiments with calves seemed to suggest a positive result and further tests with this animal are necessary. If the calves could be left with the mothers better results would probably be obtained than was possible under the circumstances in his experimental researches.

98. **Clinical Pictures in Ten Cases of Diabetes Insipidus.**—Besides the usual polyuria and polydipsia which in one case were superposed on a diabetes mellitus, nearly all the patients exhibited some affection of the central nervous system, especially genuine atrophy of the optic nerve. The peripheral nervous system was involved in a few, sciatica in some cases and exaggeration of the knee-jerk. The sexual functions were disturbed in nearly every instance. Evidences of arrested development were prominent in the younger subjects; in one case before the advent of the polyuria. In some instances there seemed to be a reversed proportion between the pulse and the polyuria. The heart beat and radial pulse were weak. In one case there was a hemorrhagic diathesis and in another incontinence of urine. All the patients were benefited by ergot and gradual deprivation of water, but a permanent cure was not obtained in any instance.

99. **Study of Diabetes.**—The practical conclusions of this comprehensive article state that in the dietetic treatment of diabetes the amount of fat to be allowed should be determined for each individual case by the intensity of the elimination of the acetone bodies. The tests showed a marked decrease in the elimination of the acetone bodies after administration of gluconic acid, a fact which, as Schwarz remarks, requires confirmation. The interposition of a day of fasting during the transition from a mixed to a diet free from carbohydrates, seems to reduce the acetone bodies at once and hastens the vanishing of the sugar. The tests also showed that the proportion of fats in the blood is above normal.

100. **Tuberculin Reaction.**—Zupnik does not think that this reaction is specific to the species but merely to the genus. The susceptibility of a tuberculous man is a hundred times greater than that of a tuberculous guinea-pig. He states that he has observed a case of tuberculosis of the kidney which, from both the clinical and pathologic points of view, seemed to be typical. The bacilli causing it, however, were not the Koch bacilli, but merely an acid-proof variety, apparently a smegma bacillus.

Deutsche Zeitschrift f. Chirurgie, Berlin.

Last indexed XL, page 1763.

101 (LXVIII, 1-2.) Obituary of Carl Nicoladoni. List of His Fifty-four Works.
102 *Experimental Sutures of Arteries. H. Amberg (Kocher's clinic, Berne).—Exp. Beitrag zur Frage der circulären Arteriennaht.
103 *Beitrag zur Myositis ossificans. Borchard (Posen).
104 *Ueber Geschwülste (tumors) des Musculus psoas und Musculus iliacus internus. H. Jacobstahl (Göttingen).
105 *Zur operativen Behandlung der Knie-Gelenk-Tuberkulose mit besonderer Berücksichtigung der Anwendung der Iodoform-Plombe nach v. Mosetig. N. Damianos (Vienna).
106 *Laparotomie und Ventralhernien. Silbermack and Hirsch.
107 *Die Lokalisation der Osteomyelitis in den Seitentheilen des Os sacrum und ihre Beziehung zu den Wachsthumsvorgängen. H. Gross (Riedel's clinic, Jena). Six cases.
108 *Ueber traumatische Accessorius-Paralyse nach Schädel-Basis-Frakturen. J. Krähenmann (Zurich).
109 Instrument for Introducing Wire Saw. E. Payr (Graz).—Instrument zur bequemen Führung der Gigli'schen Drahtsäge.
110 Ueber solitäre Darmstenosen. Hacker (Innsbruck).
111 Volvulus in einem 19-tägigen Säugling. M. Pescatore. One case; 19 days' infant.

102. **Experimental Circular Suture of Arteries.**—The experiments were made on 7 animals, including 2 horses. In 3 the lumen of the artery remained entirely permeable, and in 1 partially. An obliterating thrombosis occurred in 2, and is liable whenever the vessel is below a certain size. About 15 mm. seemed to be the limit. The walls of the vessels are thicker in man than in dogs, and Amberg reports that he has successfully applied a circular suture in a clinical case, invaginating the femoral vein with the artery over a magnesium prothesis shaped something like a napkin ring. Stubenrauch has experimented with this prothesis on the femoral artery in dogs, but thrombosis followed in every instance.

103. **Myositis Ossificans.**—The treatment of this affection can be only operative, removing the periosteum for 1 cm. if the morbid process be adherent to the bone. Two cases on record indicate that early massage might ensure the resorption of small foci of ossification. In 2 cases personally observed, the process spread from little islands of ossification in the interstitial connecting tissue, leading to hyperplasia and ossification from the proliferating perimysium. The growth was rapid and was removed in twenty-one and twenty-four days. In the 61 cases of this affection that have been published, the quadriceps was involved in 26; the brachial in 21; the iliopsoas in 3; biceps in 3; adductor longus in 3 and the triceps, gastrocnemius, gluteus, masseter and diaphragm in one each. It usually occurs when the muscles are at their prime and a traumatic factor was evident in many if not all of the cases.

104. **Four Cases of Tumors in Psoas and Internal Iliac Muscles.**—The lesions all simulated a tumor in the kidney or pelvis. Symptoms had been noticed for six to fifteen months before the operation. One patient was a woman of 47, who died two months after the fibroma had been removed from the iliacus; another a man of 37 with fatal recurrence of the spindle-celled sarcoma in three months after the intervention. A fibrosarcoma was removed from the third patient, a woman of 31, the tumor located in the psoas, and followed by rapid fatal recurrence. The fourth patient was a man of 26, and he recovered without mishap after removal of a myxofibroma in the psoas.

105. **Radical Treatment of Tuberculosis of the Knee.**—Mosetig restricts radical operation to persons under 50, although König has reported 50 per cent. cured in 100 elderly subjects treated by resection. The general condition is also an important factor in the ultimate outcome. During the last ten years Mosetig has done synovial arthrectomy in 7 and resection in 114 cases of tuberculosis of the knee, and six or seven-tenths of the total number were cured. All severer cases should be operated on at once, as the lesion is constantly spreading and the danger of general infection increasing. He operates under chloroform, resecting the parts involved, especially the bursa suburalis, which is a favorite location for

the morbid process. A thin curving slice is sawed off the head of the tibia, perpendicular to its long axis. If circumscribed foci are discovered on the sawn surface each is incised singly into sound tissue. After the cavity left has been disinfected with formalin and dried, it is filled with the bone filling, which Mosetig has previously described (see THE JOURNAL, page 1545 of the last volume). As the new bone forms and grows into the filling, it comes in contact in time with every particle of the iodoform. The halves of the patella are united with catgut passing entirely around it, and the soft parts sutured on each side of the patella, leaving a strip of rubber tissue at the bottom of the wound. The skin is then sutured with silk and the leg placed in a wooden splint, lined with cotton, covered with gauze. The splint is bound to the leg with gauze and an immobilizing bandage applied outside to include the entire limb. The leg is raised a little the first day. He has never had temperature in any case. The bandage is left undisturbed for three or four weeks, during which the patients remain in bed. The outside bandage is then removed and the patient allowed to go about on crutches. The limb can be used the seventh or eighth week, but a flannel bandage should be kept on a while longer and warm baths taken frequently. The patient leaves the hospital in two months. There is no limp when the sole is raised 2 cm. After a few weeks of careful use of the limb it can be used without fear in the hardest work. The harmlessness of the procedure is shown by the rapidity with which the patients completely recuperated, while the iodoform filling ensures smooth, rapid and permanent cure of the local lesion.

106. **Laparotomy and Ventral Hernia.**—By following Lennander's technic, an extramedian incision to avoid injury of motor nerves—the cause of atrophy in the muscles—and by leaving the fibers of the rectus intact between the cicatrix in the anterior aponeurosis and the peritoneum, Hirsch affirms that there can be no danger of ventral hernia later. He has watched the ultimate results in 41 cases thus operated on and found that Lennander's claims are justified.

107. **Osteomyelitis in the Side of the Sacrum.**—Gross has observed 6 cases and collected 10 in the literature in which the osteomyelitis was located in the lateral portions of the sacrum. In 10 the disease proved fatal. The osteomyelitis may be mild or severe, and much depends on proper surgical intervention, as he explains in detail. When a secondary abscess forms in the psoas it may be reached by resection of the sacro-iliac symphysis.

108. **Traumatic Paralysis After Fractures of Base of Skull.**—In Krähenmann's own 2 cases and in 3 he has found in the literature, there was trouble in swallowing, from unilateral paralysis of the palate musculature, and also disturbances in voice and speech from unilateral paralysis of the recurrent laryngeal. In 4 there was unilateral paralysis of the sternocleido and trapezius muscles, and in 2 unilateral loss of taste, in one instance only over rear part of one side of tongue. The injury to the nerves was located by these symptoms in the foramen lacerum posterius which transmits the three nerves involved. The sternocleido and trapezius muscles became paralyzed, but as other muscles compensated, there are no motor disturbances. Two of the 5 cases entirely recovered except for slight trouble in swallowing, still requiring care.

Mitteilungen a. d. Grenzgebieten der Med. u. Chir., Jena.
Last indexed XL, page 1671.

112 (XI, 3.) *Affection of Cauda Equina in Consequence of Tuberculosis of Adjoining Bones. M. Bartels.—Ueber Erkrankung der Cauda equina im Gefolge von Tuberculose der Symphysis sacroiliaca und der angrenzenden Beckenknochen.

113 *Can a Tumor in Spinal Cord Spontaneously Retrogress? S. E. Henschen.—Kann ein Rückenmarkstumor spontan zurückgehen?

114 *Die Exstirpation der Milz (spleen), ihre Indicationen und Resultate (an der Hand von 6 erfolgreichen Splenektomien). M. Jordan (Heidelberg).

115 Surgical Importance of Influenza. R. Milner (Hanover).—Zur chir. Bedeutung der Influenza; akute, chronisch recidivirende Spondylitis mit Schwielenbildung. Kompressionslähmung und Purpura nach Influenza.

116 *Blood Count in Appendicitis, etc. E. Stadler (Leipsic).—Zur diagn. Bedeutung der Leukocytenwerthe bei den von Blinddarm und Wurmfortsatz ausgehenden entzündlichen Prozessen.

112. **Secondary Tuberculous Affections of Cauda Equina.**—Bartels reviews the clinical picture in 2 cases personally observed and one other. If the tuberculosis develops secondarily to a tuberculous affection in the sacroiliac symphysis and adjoining bones of the pelvis, the nervous symptoms from compression of the cauda equina usually locate the lesion without difficulty. He considers surgical intervention justified when the spinal vertebræ are not affected and the symptoms indicate compression by the upper portion of the sacrum. There is little to be gained from an operation if only the lower portion of the sacrum or the coccyx is involved.

113. **Probable Spontaneous Retrogression of a Tumor in Spinal Cord.**—Henschen's report of the recovery of a patient who exhibited symptoms of a tumor in the spinal cord which later apparently vanished, was reviewed in detail in THE JOURNAL when first published in the *Upsala Lakarefor. Forhandlinger*, vii, 8. The abstract will be found on page 1554 of vol. xxxix.

114. **Indications for Removal of Spleen.**—Jordan has become convinced that the spleen is an organ which can be easily spared; and that the removal of a movable spleen may be regarded as an almost entirely harmless intervention. The danger increases in proportion to the number and extent of the adhesions. The most favorable chances are when the affection is strictly localized to the spleen; if it is secondary to some constitutional affection, extirpation is dangerous. The statistics show that spleen affections are more frequent in women than in men. He has performed splenectomy six times with success and reviews 10 other cases he has found in the literature. He corroborates the existence of a chronic hyperplasia of the spleen which develops as a purely local lesion, affecting chiefly women between 20 and 30, and requiring years to develop, eight to fourteen years in the published cases. The spleen tumor is the only morbid process and the sole cause of the existing disturbances. The symptoms are those of crowding other organs or tissues. The spleen may grow to a weight of 2 to 6 pounds. The normal condition of the blood, liver and glands excludes a constitutional affection, and complete recovery follows the removal of the spleen, which is easily accomplished. Even the coexistence of cirrhosis of the liver is no contraindication in case of this primary, idiopathic hypertrophy of the spleen. Splenectomy has been done twice on account of primary tuberculosis of the organ, and in each instance a complete cure was effected. In case of a wandering spleen, if at all abnormal, ablation is indicated and also in case of doubt. The friability of the organ renders the results of splenopexy dubious, although theoretically indicated. Necrosis of the spleen with perisplenitic suppuration such as has been observed after trauma, and intrasplenic hematogenic abscesses indicate operation. The results have been remarkably favorable in such cases to date. The seven on record were all cured. Compensation soon develops after splenectomy, even in debilitated or pregnant subjects. Recovery was also complete in a case of primary malignant tumor of the spleen treated by splenectomy. In case of echinococcus and blood cysts, the organ should be removed unless bound down by adhesions. Extirpation should also be the rule in appropriate cases of malarial spleen hypertrophy.

116. **Leucocyte Count in Inflammatory Processes Originating in the Cecum and Appendix.**—Stadler has examined 70 cases and confirms the experience of others in regard to the value of the leucocyte count in differentiating simple fibrinous exudate from abscess formation. In the former there may be in the beginning a leucocytosis of 23,000, but it rapidly subsides. If the number of leucocytes remains continuously high or reaches or surpasses 25,000 later in the affection, an abscess may be assumed or retention of pus. In case of diffuse peritonitis the height of the figure is not so characteristic as its tendency to rise or fall.

Zeitschrift f. Heilkunde (Chiari's), Prague.
Last indexed page 142.

117 (XXIV, 2 and 5: Int. Med., 1-2.) Ueber autochthone Thrombose des Hirn-Sinus und der Vena magna Galeni. K. Walko (Prague). One case.

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118 Ueber die bacterielle Diagnose des Typhus abdominalis nebst Bemerkungen über Anreicherungsversuchen mittelst der activen Beweglichkeit der T.-bacilien. C. Hayashikawa (Prague).

119 Influence of Mechanical and Thermic Measures on Blood Current and Vessel Tonus. F. Pick.—Einfluss mech. und therm. Einwirkungen auf den Blutstrom und Gefässtonus.

120 Cause of Peptone Formation in Leukemic Blood. F. Erben (Vienna).—Ueber die Ursache der Peptonbildung im leukämischen Blute.

121 Fall subacuter, spinocerebellarer Ataxie mit anatomischen Befund. J. Süsswein (Vienna).

122 Ueber isoagglutinine beim Menschen mit besonderer Berücksichtigung des Kindesalters. J. Langer (Prague).

123 *Influence of Fats on Gastric Digestion and Treatment of Hyperacidity. K. Walko.—Einfluss der Fette auf die Magenverdauung und über die Behandlung der Hyperazidität.

124 Fall leukämieartiger Erkrankung mit schwerer megaloblastischer Anämie und eigenthümlichen Exanthem. E. Hitschmann und H. Lehndorff.

125 (XXIV, 1 and 4: Path. Anat. 1-2.) Ueber einen sehr jungen, pathologischen, menschlichen Embryo. A. Fischel.

126 Changes in Spinal Cord After Loss of an Extremity. Q. Mathyas.—Zur Lehre von den Rückenmarksveranderungen nach Extremitätenverlust.

127 Unusual Collateral Circulation. H. Haberer (Gras).—Fall von seltenem Collateralkreislauf bei congenitaler Obliteration der Aorta und dessen Folgen.

128 Ueber den Lymphanglom der Leber (of liver). R. Maresch (Vienna).

129 *Gummatous Affections of Female Urethra. G. Löwenbach (Vienna).—Die gummösen Erkrankungen der weiblichen Urethra.

130 Ueber Myeloschisis mit abnormer Darmausmündung (intestinal outlet). F. Lucksch.

131 Fall von Streptothrix-Pyämie beim Menschen. A. Horst (Vienna).

132 *Frequency of Arteriosclerosis in the Young. S. v. Sumnitzky (Prague).—Ueber die Häufigkeit von arteriosklerotischen Veränderungen in der Aorta jugendlicher Individuen.

123. Influence of Fats on Hyperacidity.—Walko has been studying the effect of olive oil on the stomach. He found that it not only retarded the secretion of hydrochloric acid, but also restricted within much narrower limits the proportion of free acid and total acidity in the further course of the digestive process. The results of a number of clinical tests are tabulated, which demonstrate that 50 c.c. is fully as effective as 200 in this respect. Another set of tables shows that the amount of fat-splitting ferment in the stomach is largest after ingestion of milk, smaller after meat and smallest after ingestion of carbohydrates. In another series of 8 clinical tests he found that the simultaneous ingestion of 50 c.c. of oil with other food does not disturb the proteolysis, and in case of hyperacidity, the digestion of albumin and of starch proceeds much more rapidly than without the oil. The favorable influence of oil and other easily-digested fats is felt not only in the stomach but in the small intestine and in the relief of constipation. On the basis of the result of these researches he has been applying olive oil extensively and systematically for the treatment of hyperacidity. He administers it in a tepid emulsion, through the stomach tube, increasing from 50 c.c. at first to 100 or 200. The patients sometimes preferred to drink the oil, and all gained from 4 to 10 pounds in four to six weeks. His experience includes 92 patients thus treated during the past two years. Some were cases of acute hyperacidity, others chronic, and all forms of secretion neuroses and acid hyperesthesia, chronic ulcer, chronic gastric catarrh and ulcer scars. He has also been much impressed with the value of bone marrow taken with the dinner. This contains 96 per cent. of fat and has a marked inhibiting action on the secretion of hydrochloric acid. He details experiments with atropin and sodium bicarbonate, which showed that the relief from either was only temporary, while the bicarbonate has a distinctly injurious action, more and more acid being secreted to neutralize the alkali. He found decided and permanent benefit from Carlsbad water or Carlsbad salts in case of hyperacidity in otherwise healthy persons, but it induced motor insufficiency in debilitated subjects. In case of ectasia with hyperacidity he always obtained excellent results from lavage of the stomach with a 1 or 2 per cent. saline solution, followed by pouring in of 100 or 200 c.c. of olive oil. He remarks that it is important to siphon out the last drops of the water introduced. He adds, in conclusion, that hyperacidity of the stomach is frequently benefited by a decided change in the diet, and that the subjective state of health is perhaps the best criterion, but the dietary should always include some easily-digested fats, such as milk fat, butter, bone marrow or an oil emulsion.

129. Gummatous Affection of Female Urethra.—Löwenbach has observed 28 cases of this comparatively rare affection. The lesions may resemble gummatous formations elsewhere, but are usually distinguished by a peculiar tendency to hyperplasia of the margins of the elephantiasic tumors and their cicatricial terminal products. They also display a marked tendency to recurrence at the same or adjacent points, and are rebellious to the usually effectual mercurial treatment. Persevering administration of iodid finally conquered the affection in a few instances. He illustrates some of the cases with colored plates.

132. Arteriosclerosis in the Young.—Sumnitzky was amazed to find lesions of unmistakable arteriosclerosis in 27.5 per cent. of 38 cadavers of individuals under 25, free from syphilitic infection. He suggests that the acute infectious diseases probably play a more important rôle in its production than heretofore recognized. In 18 of the cases there had been previous severe pneumonia, diphtheria, scarlet fever, measles, typhoid, smallpox or chronic tuberculosis. In one pronounced case of arteriosclerosis in a child of 2, there was a history of diphtheria, followed by measles and later fatal pneumonia. In 3 others there was hypertrophy of the heart, from scoliosis or a history of epilepsy.

Zeitschrift f. Klin. Medizin, Berlin.

Last indexed page 143.

133 (XLIX, 5-6.) Study of Diaphragm Breathing. de la Camp.—Zur Physiologie und Pathologie der Zwerchfellathmung, einschliesslich der zugehörigen Hersbewegungen.

134 *Zur Frage der Pathogenität der Blastomyceten beim Menschen. R. Bernstein.

135 *Fall von chron. allgem. idiopathischem Edem mit tödlichem Ausgang. R. Staehelin.

136 Relations of Iron in Blood to Iron in Urine, Blood Pigments and Red Corpuscles. A. Mayer.—Ueber das Verhältniss des Eisens im Blut, etc.

137 Metabolism During Convalescence from Typhoid. H. Benedict and N. Suranyi (Budapest).—Stoffwechsel, etc.

138 Action of Baths on Blood Pressure. J. Jacob.—Die Wirkungen des Indifferenten temperirten 36-35 C. Süsswasser- und Kohlensäurebäder auf den Blutdruck Zugleich ein Beitrag zur Messung der relativen Geschwindigkeit des Blutlaufes.

134. Blastomycosis in Man.—Bernstein describes a case of infectious disease with irregular fever in a little girl, two and one-half years old, fatal in less than two months. The autopsy revealed numerous foci resembling miliary tubercles, but no tubercle bacilli were found in them. Blastomycetes were found in the tissues and also at one time in the blood during life, but vanished from the blood later.

135. Idiopathic Edema.—No heart nor kidney lesions could be discovered in the case of chronic, idiopathic generalized edema described by Staehelin, and even at the autopsy no signs of an infection or intoxication could be detected.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE PRAXIS OF URINARY ANALYSIS. A Guide to the Chemical Analysis of Urine. With Directions for Preparing Artificial Pathologic Urines for Practicing the Various Tests, and an Appendix on the Analysis of Stomach Contents. By Dr. Lassar-Cohn, Professor in the University of Koenigsberg. Authorized Translation from the Author's Enlarged and Revised Second Edition. By H. W. P. Lorenz, A.M., Ph.D. (Berlin), Late Instructor of Organic Chemistry in the University of Pennsylvania. First Thousand. Cloth. Pp. 58. Price, $1.00. New York: John Wiley & Sons. London: Chapman & Hall. 1903.

A REFERENCE HANDBOOK OF THE MEDICAL SCIENCES, Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. A New Edition, Completely Revised and Rewritten. Edited by Albert H. Buck, M.D., New York City. Volume VI. Illustrated by Chromo-lithographs and 763 Half-tone and Wood Engravings. Cloth. Pp. 1004. Price, $7.00 per Volume. New York: Wm. Wood & Co. 1903.

A TREATISE ON DISEASES OF THE RECTUM, ANUS AND SIGMOID FLEXURE. By Joseph M. Mathews, M.D., LL.D., President of the American Medical Association, 1898. With 6 Chromo-lithographs and Numerous Illustrations. Third Edition, Revised. Cloth, Pp. 589. Price, $5.00. New York: D. Appleton & Co. 1903.

MERCK'S 1901 MANUAL OF THE MATERIA MEDICA. A Ready-reference Pocketbook for the Practicing Physician and Surgeon. Compiled from the Most Recent Authoritative Sources. Flexible

Cloth. Pp. 282. Price, $1.00. Published by Merck & Co., New York and Chicago.

THE GEOGRAPHY OF DISEASE. By Frank G. Clemow, M.D. Edin., D.P.H. Camb., British Delegate to the Ottoman Board of Health. Cloth. Pp. 624. Price, $4.00. Cambridge: University Press. New York: The Macmillan Company. 1903.

REPORT ON WATER PURIFICATION INVESTIGATION AND ON PLANS PROPOSED FOR SEWERAGE AND WATERWORKS SYSTEMS, Jan. 1, 1903. Pasteboard. Pp. 266. New Orleans. A. W. Hyatt Stationery Mfg. Co., Ltd. 1903.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department, U. S. A., under orders from the Adjutant-General's Office, Washington, D. C., for the week ending June 22, 1903:

Arthur, William H., major-surgeon, will repair to Washington, D. C., and report in person to the governor of the U. S. Soldiers' Home for duty as attending surgeon, to relieve Major Louis A. LaGarde, surgeon.

Bloombergh, Horace D., first lieut. and asst.-surgeon, now on leave of absence at Easton, Pa., will, on the expiration of said leave, proceed to San Francisco and report for transportation to the Philippine Islands, where he will report for assignment to duty.

Brechemin, Louis J., major-surgeon, is relieved from further duty in the Division of the Philippines and will proceed to San Francisco, and report by telegraph to the adjutant-general of the Army for further orders.

Crosby, William D., major-surgeon, will proceed to San Francisco and report for transportation to the Philippine Islands, where he will report for assignment to duty.

Fisher, Henry C., captain and asst.-surgeon, is relieved from duty as attending surgeon and examiner of recruits at Baltimore, Md., and from further temporary duty at Fort McKinley, and will proceed to Camp George H. Thomas, Chickamauga Park, Ga., for duty, to relieve Major William D. Crosby, surgeon.

Lyster, Theodore C., first lieut. and asst.-surgeon, is relieved from duty at Fort Wood, N. Y., and will proceed to New York City for temporary duty as attending surgeon and examiner of recruits, to relieve Major William H. Arthur, surgeon.

McCalum, Francis M., contract surgeon, now on leave, is relieved from further duty in the Department of the Lakes, and will proceed to Fort D. A. Russell for duty.

Price, Richard J., contract surgeon, is granted leave for three months on surgeon's certificate, to take effect about July 1.

Purviance, William E., captain and asst.-surgeon, will report to Major Louis A. LaGarde, surgeon, president of the examining board at the Army Medical Museum Building, Washington, D. C., for examination for promotion.

Pipes, Henry F., contract surgeon, now in Washington, D. C., will proceed to Governor's Island, N. Y., and report to the commanding general, Department of the East, for assignment to temporary duty.

Wells, George M., captain and asst.-surgeon, will report to Major Louis A. LaGarde, surgeon, president of the examining board, at the Army Medical Museum Building, Washington, D. C., for professional examination for promotion.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending July 4:

A. A. Surgeon J. T. Miller, detached from recruiting duty and ordered home to wait orders.

A. A. Surgeon R. B. Chapman, detached from recruiting duty and ordered home to wait orders.

Medical Inspector D. N. Bertolette, ordered to Washington, D. C., as member of the naval medical examining board.

Asst.-Surgeon J. A. Murphy, detached from the *Monadnock* and ordered to the *Celtic*.

Asst.-Surgeon R. K. McClanahan, detached from the *Oregon* and ordered to the *Villalobos*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended July 2, 1903:

Surgeon Preston H. Bailhache, leave of absence for seven days from July 1, 1903, under paragraph 189 of the Regulations.

Surgeon H. W. Sawtelle, granted leave of absence for two days from June 30.

Surgeon J. M. Gassaway, granted leave of absence for two days from June 28.

Surgeon G. W. Stoner, leave of absence for two days from June 29, 1903, under paragraph 189 of the Regulations.

Asst.-Surgeon M. J. White, to report to chairman of board of examiners, San Francisco, July 10, 1903, for examination to determine his fitness for promotion to the grade of passed assistant-surgeon.

Asst.-Surgeon L. D. Fricks, to report to chairman of board of examiners, Immigration Depot, New York, N. Y., July 6, 1903, for examination to determine his fitness for promotion to the grade of passed assistant-surgeon.

Asst.-Surgeon A. J. McLaughlin, relieved from duty at New York, N. Y., and directed to proceed to Washington, D. C., for duty in the Bureau.

A. A. Surgeon G. T. Simonson, granted leave of absence for one day.

A. A. Surgeon Jay Tuttle, granted leave of absence for thirty days from July 1.

Pharmacist S. W. Richardson, relieved from duty at St. Louis, Mo., and directed to proceed to Portland, Me., and report to medical officer in command for duty and assignment to quarters, relieving Pharmacist M. Walerius.

Pharmacist M. Walerius, on being relieved by Pharmacist S. W. Richardson, to proceed to St. Louis, Mo., and report to medical officer in command for duty and assignment to quarters.

BOARDS CONVENED.

Board convened to meet at Washington, D. C., July 3, 1903, for the physical examination of an officer of the Revenue Cutter Service. Detail for the board: Assistant Surgeon-General L. L. Williams, chairman; Assistant Surgeon-General W. J. Pettus, recorder.

Board convened to meet at the Immigration Depot, New York, N. Y., July 6, 1903, for the examination of Asst.-Surgeon L. D. Fricks to determine his fitness for promotion to the grade of passed assistant-surgeon. Detail for the board: Surgeon G. W. Stoner, chairman; Surgeon C. T. Peckham; P. A. Surgeon T. Clark, recorder.

Board convened to meet at San Francisco, Cal., July 10, 1903, for the examination of Asst.-Surgeon M. J. White to determine his fitness for promotion to the grade of passed assistant-surgeon. Detail for the board: P. A. Surgeon W. G. Stimpson, chairman; P. A. Surgeon R. Blue; P. A. Surgeon H. S. Cumming, recorder.

DISMISSAL.

Asst.-Surgeon F. J. Thornbury dismissed, by direction of the President, from the Public Health and Marine-Hospital Service for conduct unbecoming a gentleman and an officer, insubordination, etc., to take effect on receipt of letter of dismissal (effective July 1, 1903).

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended July 3, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, June 20-27, 5 cases.
California: San Francisco, June 14-21, 2 cases.
Illinois: Belleville, June 22-29, 5 cases.
Indiana: Indianapolis, June 20-27, 1 case.
Louisiana: New Orleans, June 20-27, 4 cases, 1 death.
Massachusetts: Fall River, June 20-27, 3 cases; Taunton, June 20-27, 1 case.
Michigan: Detroit, June 20-27, 7 cases; Flint, June 20-27, 1 case; Grand Rapids, June 20-27, 3 cases; Port Huron, June 20-27, 10 cases.
New Hampshire: Manchester, June 20-27, 2 cases.
New Jersey: Bordentown, June 6-27, 24 cases, 5 deaths; Trenton, June 20-27, 1 case.
Ohio: Cincinnati, June 19-26, 3 cases, 2 deaths; Cleveland, June 20-27, 1 case; Toledo, June 13-20, 2 cases.
Pennsylvania: Altoona, June 20-27, 1 case; Johnstown, June 20-27, 1 case; Philadelphia, June 20-27, 26 cases, 4 deaths.
South Carolina: Charleston, June 20-27, 2 cases.
Wisconsin: Milwaukee, June 20-27, 2 cases.

SMALLPOX—INSULAR.

Philippines: Manila, May 2-9, 9 cases.

SMALLPOX—FOREIGN.

Austria-Hungary: Prague, June 6-13, 4 cases.
Belgium: Antwerp, June 6-13, 4 cases, 1 death; Brussels, June 6-13, 8 deaths.
Brazil: Rio de Janeiro, May 24-31, 1 death.
China: Hongkong, May 2-16, 12 cases, 1 death; Shanghai, May 9-16, 2 deaths.
Colombia: Bocas del Toro, June 9-16, 2 deaths.
Great Britain: Bristol, June 6-13, 1 case; Cardiff, May 2, 28 cases; Dublin, June 6-13, 15 cases, 1 death; Dundee, June 6-13, 2 cases; Leeds, June 13-20, 12 cases; Manchester, June 6-13, 9 cases, 1 death; Newcastle-on-Tyne, June 6-13, 1 case; Sheffield, May 30-June 6, 9 cases; Sunderland, June 6-13, 1 death.
India: Bombay, May 23-June 2, 44 deaths; Calcutta, May 23-30, 1 death; Karachi, May 23-30, 3 cases; Madras, May 23-29, 1 case.
Japan: Kobe, May 23-June 6, 5 cases.
Mexico: City of Mexico, June 7-14, 18 cases, 12 deaths.
Russia: Moscow, May 30-June 6, 2 cases, 2 deaths; St. Petersburg, May 30-June 13, 41 cases, 10 deaths; Warsaw, May 16-24, 2 deaths.
Switzerland: Zurich, June 6-13, 1 case.

YELLOW FEVER.

Colombia: Panama, June 15-22, 3 cases, 1 death.
Costa Rica: Limon, June 11-18, 2 cases.
Ecuador: Guayaquil, May 2-23, 6 deaths.
Mexico: Merida, June 1-20, 5 deaths.

CHOLERA—INSULAR.

Philippines: Manila, May 2-9, 44 cases, 38 deaths; Provinces, May 2-9, 343 cases, 242 deaths.

CHOLERA—FOREIGN.

India: Calcutta, May 23-30, 52 deaths.
Straits Settlements: Singapore, May 2-9, 72 deaths.

PLAGUE—INSULAR.

Philippines: Manila, May 2-9, 6 cases, 2 deaths.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, May 24-31, 1 death.
China: Amoy, May 16, present; Canton, May 16, present; Hongkong, May 2-16, 215 cases, 184 deaths.
Egypt: May 23-30, 4 cases, 4 deaths.
Germany: Berlin, June 5-18, 2 cases, 1 death, contracted in laboratory work.
India: Bombay, May 25-June 2, 186 deaths; Calcutta, May 23-30, 52 deaths; Karachi, May 24-31, 105 cases, 100 deaths; Mauritius, May 21-28, 1 death.

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